

November 1937

TECHNOLOGY REVIEW

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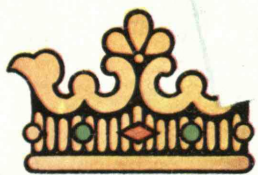


technology review

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pleasure*



Chesterfield

CIGA

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THE TABULAR VIEW

IN opening, on October 6, the series of science broadcasts presented by The Review over Station WIXAL (see page 11), the Editor thus described their purpose, which is the same as that of the general science section of The Review itself: "The Technology Review in its printed pages and on this radio program seeks, month by month, to capture the unrealized romance of science in action, to report for the layman the drama of discovery that is being enacted with growing intensity in our observatories and laboratories. . . .

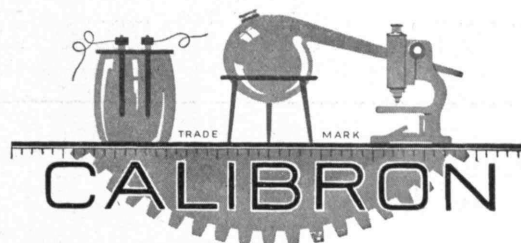
"These are golden years for the scientist and engineer. Not since the close of the last century, when x-rays, radium, radioactivity, and the electron were discovered, has there been such a surge of excitement on the scientific front. With new artillery using millions of volts, physicists are penetrating the mysteries of the atomic nucleus and making real the alchemist's dream of transmutation.

"The biologist, aided by the chemist, is attacking with renewed hope the enigmas of living matter, and the astronomer, as he constructs better eyes for the depths of the universe, devises more accurate yardsticks for infinity. So promising are these advances, and many others, that informed workers expect in oncoming years the most exciting and far-reaching developments in the whole history of science. Equally exciting is the increasing activity of the applied scientist and the engineer in the economic application of science to social needs.

"As we peer over such scientific horizons in these broadcasts, and as we picture the techniques, the products, and the new ways of living and thinking nurtured in laboratories, we will try to show how science affects *you*. We will see how studies of electrons, and cells, and stars must and will have impact on the ordinary citizen in his ordinary life. Furthermore, we expect to present the new in science, not indiscriminately but critically and judiciously. . . ."

IN THIS ISSUE

JOURNALIST, author, research engineer, JOHN E. BURCHARD, '23 (page 11), is widely informed in the fields of science and technology. **S. PAUL JOHNSTON**, '21 (page 19), is Editor of *Aviation*. **GEORGE R. HARRISON** (page 22) is Director of Applied Physics and of the Research Laboratory of Experimental Physics at M.I.T. His article on new developments in the telephonic art is drawn from a book now being written by him on the contributions of physics to modern life. **DAVIS R. DEWEY** (page 24) is Managing Editor of the *American Economic Review*, and Professor of Political Economy, Emeritus, at the Institute. He has been at the Institute since 1886 and thus knows intimately a half century of Technology history. **A. LAWRENCE KOCHER**, '13 (page 25), is Editor of the *Architectural Record*. **THOMAS C. DESMOND**, '09 (page 29), is a member of the Senate of the New York State Legislature and is Chairman of Technology's Alumni Fund Committee.



GUARANTEED RESEARCH

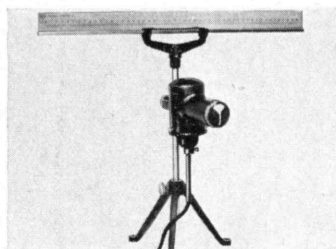
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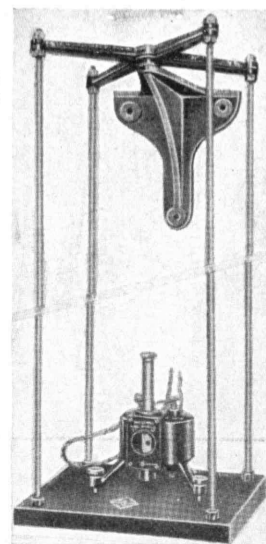
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CAMBRIDGE GALVANOMETER ACCESSORIES



LAMP and SCALE OUTFIT

consists of a lantern with a small incandescent lamp for 6 or 110 volt supply, which gives a bright spot readable at a distance. The lantern is attached by an adjustable clamp with ball and swivel joint, to a tripod carrying a 50-centimeter scale divided in millimeters, with center or end zero.



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comprises a slate shelf, suspended by four metal rods from an X-shaped frame supported on a hemispherical rubber buffer attached to a wall bracket. This is an effective and inexpensive anti-vibration support for laboratory use.

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Webster Systems of Steam Heating do for **steam distribution** what modern fuel burning equipment and methods do for **steam generation**.

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See our **complete** 1937 catalog in Sweets Architectural File, Domestic Engineering Catalog or Air Conditioning Blue Book. Or write for a copy.



Akron Savings & Loan Building, Akron, O.

MODERNIZE HEATING IN AKRON BANK BUILDING

**Webster Hylo Control Applied
to Stoker Installation Saves
19 P. C. on Coal Bill**

Akron, O.—The engineering experience of the Webster Organization was a determining factor in the selection of the Webster Hylo System of Steam Heating and Webster Heating System Equipment in the Akron Savings & Loan Company Building, according to Building Manager A. B. Crandall.

The heating system in this 12-story office building was brought up-to-date during the 1934-35 heating season after an exhaustive investigation of heating control methods.

"While our primary object in installing the Webster Hylo Control System was to obtain even temperature and tenant comfort, it is interesting to note that a 19 per cent coal saving was also effected."

How this 19 per cent saving was achieved is shown in the performance record below. There was no change in the heating schedule of 91 hours a week.

Webster Hylo Steam Variator Controls may be applied to stoker installations, with Webster Metering Orifices to balance steam distribution. Substantial savings are effected even where stokers have previously been in operation.

| | Heating Performance Record | | |
|----------------|----------------------------|-----------------|---|
| | Degree Days | Lbs. Coal Fired | Steam Per D.D. Per M. Sq. Ft. Radiation |
| Before Control | | | |
| 1933-34..... | 6,566 | 875,000 | 79.5 |
| After Control | | | |
| 1935-36..... | 6,728 | 730,000 | 64.5 |

Data for season 1934-35 is not conclusive, as change was made during the heating season.



Huntington National Bank, Columbus, O.

SECOND YEAR HEATING SAVINGS EQUAL FIRST

**Webster Moderator System
Controls Stoker Installation
in Huntington Bank**

ANNUAL SAVINGS OVER \$1,400

Columbus, O.—The second year's experience with the Webster Moderator System in the Huntington National Bank Building demonstrated that the record made during the first season can be maintained year after year, according to P. W. Huntington, Building Manager.

Before modernization, this installation used 940 tons of coal a year in a **stoker-fired installation**.

After the Moderator System was installed to balance distribution and control stoker operation, coal consumption was reduced 322 tons during the first season.

During 1934-35 the operating schedule was increased to a full 24 hours a day. In addition, for a three months' period the management shifted to an inferior grade of coal, which would tend to increase the tonnage of fuel consumed.

In spite of this, only 644 tons of coal were consumed during the second year. Mr. Huntington reports that the equipment has now operated throughout four seasons without repair, and the only service required has been routine inspection and checking of performance.

The average annual saving for the first two-year period is 309 tons having a cash value of \$1,405.95 per year. The cost of the modernization program has been recovered out of savings.

The improvement in heat distribution noted by Mr. Huntington during the first year has been maintained.

The Huntington Building, built in 1924, contains 25,250 square feet of installed radiation. It is one of many buildings in which Webster "Controlled - by - the - Weather" Systems are providing better heat for less money, year after year.

H. F. MARSHALL '19—Advertising Manager

WARREN WEBSTER & COMPANY, Camden, N. J.
Pioneers of the Vacuum System of Steam Heating . . . Representatives in 60 principal U. S. Cities—Established 1888

MAIL RETURNS

LETTERS FROM REVIEW READERS

Brain Twisters—4th Series

LAST spring The Review offered prizes for correct solutions to a set of 10 brain-twister problems prepared by Professor Hudson. The response to this contest was so great, the interest so evident, that The Review offered to publish another series contributed by its readers. Again the response was immediate, and we present below 10 problems selected from those submitted.

To each of the first five readers returning correct answers, The Review will give a free year's subscription. Members of the M.I.T. staff are excluded and, in addition, those who won subscriptions last spring.

May the best men win!

How Many Coconuts?

FROM G. A. PALMER, '15:

No. 1. A pile *A* of coconuts of unknown quantity is divided into four piles *B* of equal quantity, one coconut being left over and discarded. Three of the *B* piles are then grouped together and divided into four piles *C* of equal quantity, one coconut again being left over and discarded. Three of the *C* piles are grouped together and divided into four piles *D* of equal quantity, and again there is an odd coconut remaining, which is discarded. Three of the *D* piles are grouped together and divided into four piles *E* of equal quantity, still an odd coconut being left and discarded. How many coconuts were in the pile *A*? (I am very curious as to whether there is any direct mathematical solution of the problem. . . or if it is solvable only by some such hunch as I happened to drop upon.)

Houston, Texas

FROM WILLIAM BAUMRUCKER, JR., '29:

No. 2. There were five men gathering coconuts. At the end of the day, they were tired and decided to divide the coconuts the next morning. Shortly after retiring, the first man, who distrusted his fellow members, arose, divided the pile of coconuts into five equal portions, and finding that he had one coconut left over, threw it to the monkeys. This first man hid one of the portions, jumbled the other four together, and went back to bed. Shortly thereafter, the second man went through the same procedure, dividing the remaining coconuts into five piles, having one left over which he threw to the monkeys, hiding one portion, jumbling the other four together, and returning to bed. In regular order the third, fourth, and fifth men went through the same procedure, each time tossing one coconut to the monkeys. The next morning the coconuts which remained were divided among the five men, and the division came out evenly with no coconuts left over. What is the smallest number of coconuts that will answer this situation?

New York, N. Y.

The Grazing Cow

FROM GEORGE P. DAVIS, '24:

No. 3. A cow is tethered to a stake located at the edge of a circular pond covering one acre. How long a rope is necessary to enable the cow to graze over one acre of ground? It is assumed that the rope is tied at the cow's mouth, so no allowance is required to compensate for the length of the cow's neck.

Springfield, Ill.

FROM W. F. McCUTCHEON, '34:

No. 4. How long must a rope be so that a cow, tied by it to a fence post in a circular pasture 100 feet in diameter, can eat half the grass?

Philadelphia, Pa.

How Long and How Far?

FROM OLIVER C. HALL, '14:

No. 5. A man in a boat one mile offshore can row two miles per hour. From the nearest point of land, the beach is straight for three miles, and there a road is perpendicular to the beach and runs straight inland to a tavern five miles from the beach. In the angle between the beach and road is a field over which the man in the boat can run at six miles per hour, while on the road he can run ten miles per hour. What is the minimum time required for the man to get to the tavern from his original position in the boat, one mile offshore?

New York, N. Y.

FROM W. F. McCUTCHEON, '34:

No. 6. A man driving a car arrives two hours late. One hour after starting he had to reduce his speed to three-fifths of the original speed. If the accident had happened 50 miles farther on, he would have arrived 40 minutes earlier. How far did he go?

Philadelphia, Pa.

How Old?

FROM WILLIAM A. JONES:

No. 7. A man asked a girl her age. At first she would not tell. However, after he had told her that he was 28, she ventured the following statement: "Four years before I was born, you were twice as old as I was when you were five years younger than I am now." How old is she?

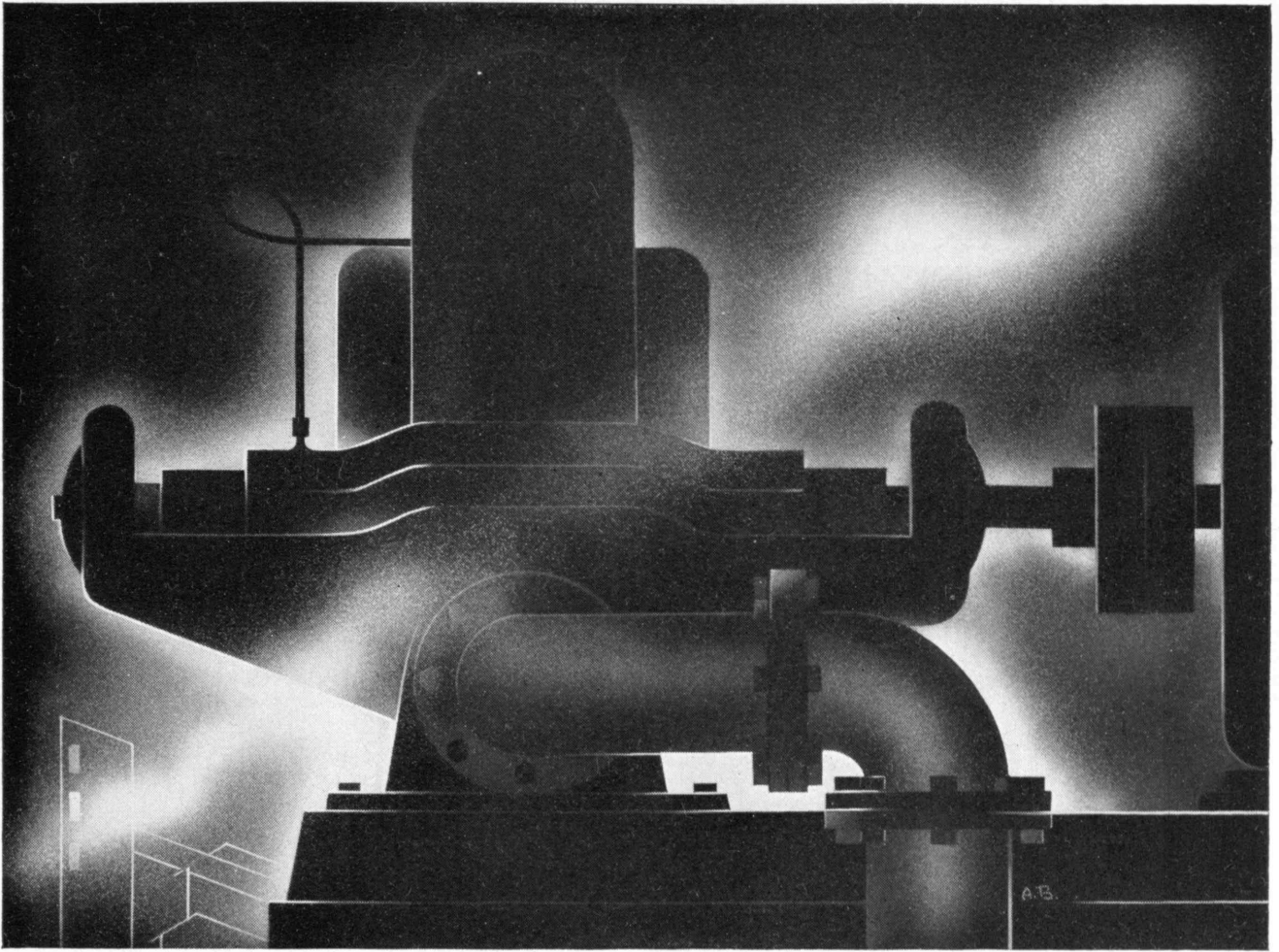
Harrisburg, Pa.

FROM W. F. McCUTCHEON, '34:

No. 8. A ship is twice as old as its boiler was when the ship was as old as the boiler is now. Their combined age is 49. What is the age of the ship?

Philadelphia, Pa.

(Concluded on page 6)



Obvious—or Effective

WHEN machine parts failures become a problem, the obvious remedy is not always the most effective.

An important and alert manufacturer of centrifugal pumps, for instance, had impeller trouble. Steel impellers were the obvious answer, but cost was a factor to be considered.

A .75% Moly iron was used—and the trouble was eliminated. This hard, strong, fine-grained iron had

the necessary resistance to the abrasive action of the material handled by the pump. And—it held down the manufacturing cost.

Moly toughens cast iron, assures uniform structure throughout varying sections, and reduces porosity. It produces irons with high wear resistance and greater strength. It cuts production cost by eliminating many of the causes of rejects.

Our technical book, "Molybdenum," contains practical data on Moly irons and steels. It will be sent on request—as will our monthly news-sheet, "The Moly Matrix." Be free to consult our laboratory on special ferrous problems. Climax Molybdenum Company, 500 Fifth Avenue, New York City.

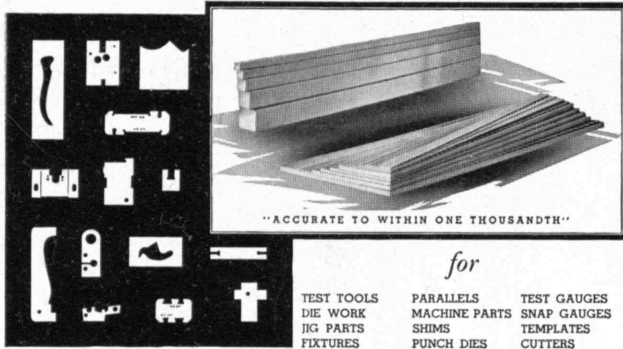
PRODUCERS OF FERRO-MOLYBDENUM, CALCIUM MOLYBDATE AND MOLYBDENUM TRIOXIDE

Climax Mo-lyb-den-um Company

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SAVE TIME • SAVE TROUBLE • SAVE MONEY

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Our extra quality, distinguished at a glance by our trade mark, the colored spots. Especially well known as the most durable material for hanging windows, for which use it has been specified by architects for more than forty years.

MAIL RETURNS

(Concluded from page 4)

How Much and How Many?

FROM WILLIAM A. JONES:

No. 9. The capacity of a movie theater in a small country town was 100. Ticket prices were as follows: men, five cents; women, one cent; children, 1/10 cent. The theater was filled to capacity with men, women, and children, and one dollar was the total collected. How many men, women, and children were present? Give all possibilities.

No. 10. Three women, with 10, 30, and 50 eggs respectively, went to market to sell their eggs. They sold them at two rates — each using the same two rates. Each woman sold all her eggs and collected the same amount of money. How many eggs did each sell at each rate, and what were the rates?

Harrisburg, Pa.

Popular Error? Yes, Say the Majority

FROM FRANK MASSA, '27:

I must agree with the opinion of Alfred L. Fitch, '84, in the July Review. The terminology "sixty million is ten times faster than six million" is not accurate. If one stated that *A* travels 100% faster than *B*, I think most everyone would agree that *A*'s speed is twice that of *B*. Similarly, sixty million is 900% faster than six million, which makes it also ten times as fast. To be accurate, I am of the opinion that the statement should read, "nine times faster," or "ten times as fast."

Camden, N. J.

FROM RICHARD T. HOFFMAN, '29:

I emphatically agree with the contention of Mr. Alfred L. Fitch in his letter published in July's Mail Returns. The use of "times greater than" is always ambiguous, for one never knows if the writer has applied Mr. Fitch's logic or has been careless of meaning. "Times as large as" leaves no doubt as to meaning. . . .

Montclair, N. J.

FROM EDWIN M. McNALLY, '18:

Mr. Alfred L. Fitch, '84, raises a nice point in his letter. Technically, I believe he is right. I avoid this difficulty as a rule by saying, "Sixty million is ten times as fast as six million." Such a statement is much weaker in ordinary language, losing the psychological advantage of the comparative, "faster." So, depending upon to whom you are speaking or writing, this minor technical error may be justifiable for emphasis. . . .

Indianapolis, Ind.

FROM CLINTON YOUNG, '36:

In answer to your question as to whether other Review readers agree with Alfred L. Fitch, '84, that the phrase in question is "illogical, inaccurate" — yes.

Boston, Mass.



Forty-three pages in our new General Catalog 51 are devoted to stock spur gears manufactured by us. These are made from Steel, Cast Iron, Brass, Textolite, and Fabroil. Every one of these spurs is a stock item. Simplify your spur gear problem—select your gears from our General Catalog 51—then order from stock. To best serve you Boston Spur Gears are carried in stock in forty-five distribution centers throughout the country. Boston Stock Gears are better than special gears.

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Belts went to pieces in 3 days
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IF YOU have a belt-eating high speed drive in your plant we think you will find the following experience of unusual interest.

Several years ago the H. G. Wilcox Company of Tacoma, Washington, developed a machine to manufacture battery separators at low cost. Its success depended upon operation of a grooving device, driven by a $2\frac{3}{4}$ " pulley, at a speed of 9,800 revolutions per minute.

Many different types of belts of highest quality were tried out on this machine but the cyclonic speed and terrific flexing caused by the small pulley diameters and short center literally tore them to pieces—some lasting only 10 minutes; the best only 3 days!

Not a shutdown in 58 months

Then the G. T. M.—Goodyear Technical Man—was called in and on his analysis and recommendation a Goodyear COMPASS "10" Endless Belt was applied in January 1933. Today, almost five years later, the Goodyear COMPASS is still driving this machine—and there has never been a single shutdown for belt adjustment or repair.

A second COMPASS-driven machine is now operating at 12,000 r. p. m., and Mr. H. G. Wilcox, president of the company writes, "If it were not for Goodyear COMPASS Belts these machines could not have been made a success."

Why not let the G. T. M. demonstrate how COMPASS' patented endless cord construction will tame your most vicious drives?

To bring this friendly consultant to your office, just write Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME

IN RUBBER

GOOD YEAR

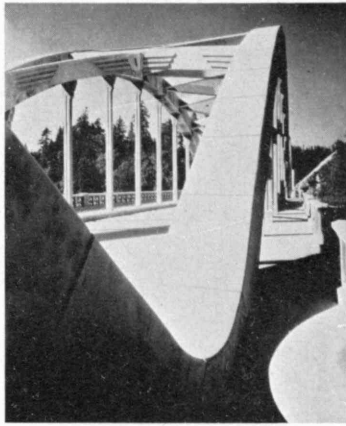
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GOODYEAR COMPASS "10" ENDLESS BELT
9' $2\frac{3}{4}$ " long by 3" wide
for GROOVING MACHINE DRIVE
H. G. Wilcox Co., Tacoma, Wash.

DRIVEN PULLEY
9,800 R.P.M.

7000 F.P.M.
20 H.P. MOTOR

25°

$\frac{1}{8}$ 3' $9\frac{1}{2}$ "



Portland Cement Association

BOWSTRING ARCH

One of several
concrete arches in
the bridge span-
ning the Umpqua
River at Reeds-
port, Ore.

THE TECHNOLOGY REVIEW

Title Reg. U. S. Pat. Office

EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

1940

VOL. 40, NO. 1

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NOVEMBER, 1937

THE COVER

LOBBY OF THE INTERNATIONAL BUILDING, ROCKEFELLER CENTER,
LOOKING OUT ACROSS FIFTH AVENUE ON ST. PATRICK'S CATHEDRAL

From a photograph by Paul J. Woolf

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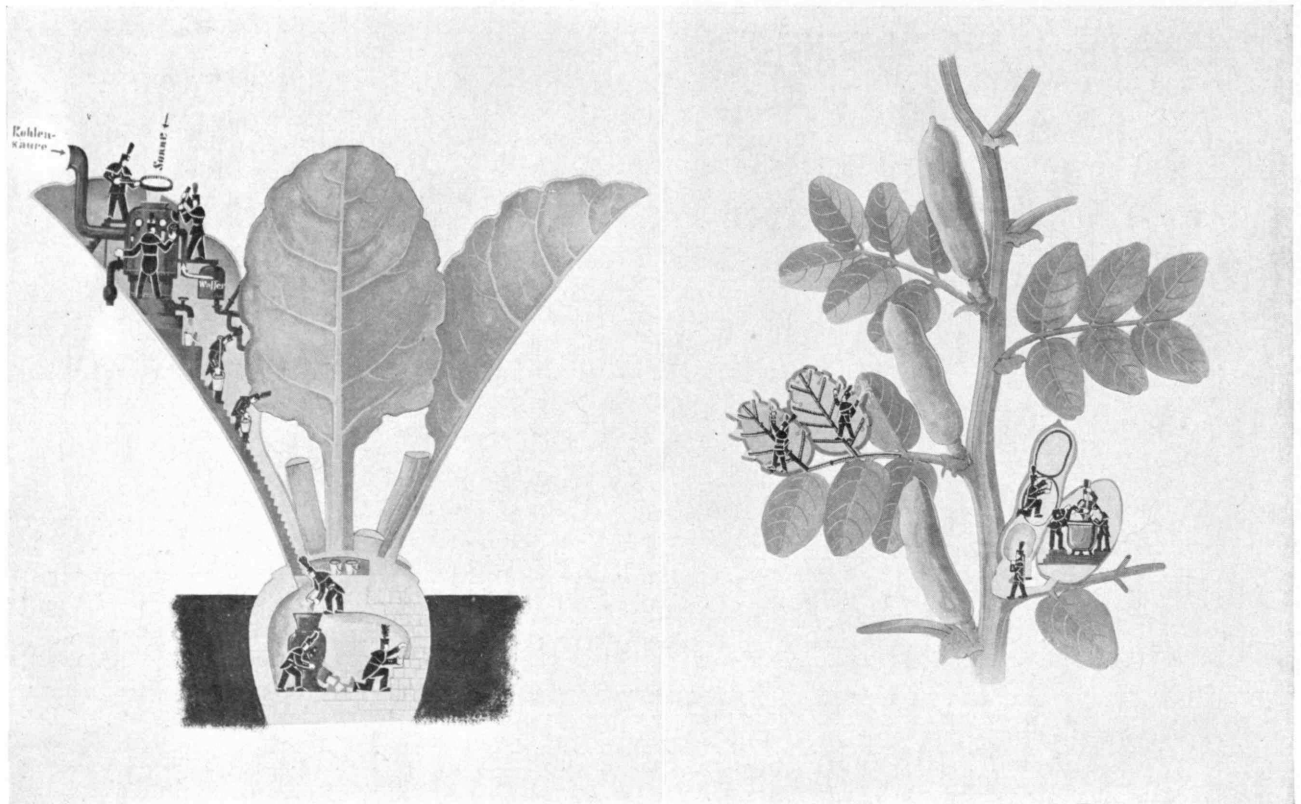
Potash

Personified

These clever graphic representations from Germany present the importance of potash in cultivated plants, and exemplify the pictorial work the Germans do so well. Shown by the Deutsches Kalisyndikat at the 1937 agricultural exhibition at Munich, the series enumerates the functions of potash so simplified that to apprehend is to remember



We see potash at work (left) pouring starch into the grain, reinforcing the straw structure, removing rust. We can watch it forming fiber (center) and starch, regulating the water economy for protection and insulation (right). Below, the air-reduction plant is in operation, where potash assists sunlight and chlorophyll to extract carbon dioxide and to transport vital products to their storage places as sugar, starch, and fiber. The final function portrayed is the synthesis of protein from sugar and nitrogenous compounds



THE TECHNOLOGY REVIEW

Vol. 40, No. 1

November, 1937



The Trend of Affairs

New Inventions; Their Social Implications

By JOHN E. BURCHARD

IN JUNE, Secretary of the Interior Ickes, chairman of the National Resources Committee, submitted to President Roosevelt a long-awaited report of the sub-committee on technology, entitled, "Technological Trends and National Policy Including the Social Implications of New Inventions." The daily press immediately seized upon the famous six developments which the report considered as most likely to have important social repercussions — cotton picker, photocell, tray agriculture, television, prefabricated houses, cellulose — and thereupon in general forgot the report.

Throughout an exceptionally hot summer this thick book of 388 closely written pages has rested in The Review Office. Through these months it has been carefully perused and marked, page by page, in the hope of finding leads for further investigation of matters which would be of interest to our readers. To a degree these hopes have been justified, but on the whole, this mountainous work has been disappointing. It is not bragging to say that the work forecasts almost no salient development which would not already be familiar to any close reader of The Review or, indeed, of any other reasonably thorough journal of scientific interpretation.

As everybody understood in the beginning, this study was to be a sort of guidebook by which the social planners of today might lay a course for tomorrow. Secretary

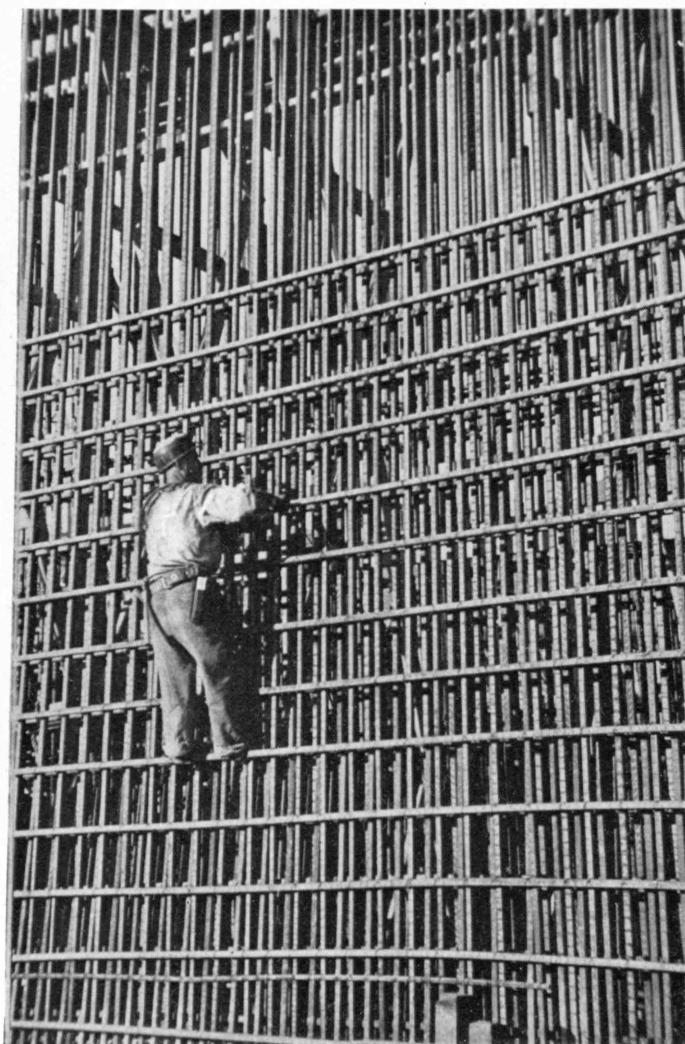
Ickes stoutly proclaimed that it was the first major effort in America to assay our probable short-time technological development in advance of that development. In the course of creation, the work has evidently acquired other objectives, objectives which indeed seem to vary from section to section. In the strictly technical parts, the collaborating writers have, on the other hand, differed in their daring. Professor Furnas, for example — a university man — carries us quite a distance on the path of metallurgy, seeking to exercise discrimination among what he regards as definite trend, as possible trend based on unproven practice, and as frank speculation. This makes his work interesting and stimulating. A few others have followed this course, though no other so successfully. But all too many have evidently succumbed too quickly to the sound dictum, "by the modesty of their predictions do scientists justify faith in their work," and as a result, daring too little, have left us with a blueprint of the future which has too few lines to be of any avail. A work of this sort might be helped were more of the writers from industrial and university laboratories.

The Technology Review On the Air

On October 6 The Review inaugurated a series of twice-monthly broadcasts entitled, "The World of Science: The Short-Wave Magazine of Science in Action." The third program will be on the air at 7:30 P.M., November 3, and succeeding broadcasts are scheduled for the same hour on every other Wednesday evening (November 17, December 1, for example).

The programs are broadcast from Short-Wave Station WIXAL (6.04 Mc) under the auspices of the World Wide Broadcasting Foundation, Boston. Comments and inquiries from listeners will be welcomed.

Again, the writers for the most part seem to have been prepossessed with history. As a haphazard Cavalcade of technological development, many of the sections have fair merit, but all too often they trace scientific and engineering developments which even the technologically ingenious social planner might be expected to have heard of before. In occupying so much space in this way (though constantly wasting space, decrying the lack of



SINEWS OF STEEL AT COULEE

Placing 1.5-inch reinforcing steel for Grand Coulee's 1,650-foot spillway. The capacity of this spillway will be 1,000,000 cubic feet of water a second (over twice any recorded flood). If such a flood ever occurred, the bucket at the toe of the spillway would be called upon to dissipate 32,000,000 horsepower! Grand Coulee's builders, with a record day's pour of over 13,000 cubic yards, have already exceeded the world's record at Boulder Dam of 10,300 cubic yards

it), they have been unable to set forth many of the new developments with enough background to lend relief and intelligibility to their significance. Somehow technological unemployment seems to have been so much of an advance thesis as to have colored unreasonably the arrangement of text and the conclusions to be derived.

The book, nonetheless, cannot fail to be interesting and occasionally suggestive, and from pages of notes on all sorts of subjects, it may be profitable to select diverse items which may serve to stimulate thought. In this connection an encouraging note might be sounded at once by remarking that more than one of the writers, in discussing needed research in his field, finds that this research will thrive best under private enterprise and even under operation of the profit motive.

After an able introduction by Professor William F. Ogburn, in which he sets forth the undebatable argument that *if* we could plan for future technology, we

could save much waste, the book gets at once on difficult sociological ground. S. C. Gilfillan, for example, endeavors to prove that it is possible for properly equipped people to predict the future of technology with some accuracy. After laboriously building up a case, he inadvertently knocks it down with a few comments. It is unnecessary for us to linger on the possible validity of the argument for it was presumably set up to justify a degree of prediction which the conservatism of the technical writers did not attain. He is followed even less satisfactorily by Professor Stern of Columbia, who patiently traces the various forces opposing each technological advance in every field, from toll roads to television. Although in the course of this he does succeed in introducing all factors, it seems to this reader that his biases have not permitted desirable objectivity. In his anxiety to prove that monopoly is the most effective deterrent to technological advance, he, unfortunately, happens to select the two examples which best oppose his case. When he asks us to believe that the American Telephone Company has restricted progress in telephony, and praises, though by mild implication, French telephonic advances, he is obviously on the end of a very fragile limb; and in his dealings with the Aluminum Company of America he seems quite to forget that an expensive metal like aluminum does not admit of monopoly in the truest sense, for it must on every front compete with other metals, and this tests to the utmost its scientific advance. As a history of how everybody is always difficult, Professor Stern's document is amusing; as a proof of a thesis which seems, if stated baldly, to be "abolish capitalism," it is possibly not the stirring indictment he would have had it.

FOLLOWING all this preamble the book gets down to cases (on page 95) and, dividing the field of technology into nine fields, goes to work with the varying success which has been mentioned. Culling through these pages, various things of interest are to be found. To be classed as believe-it-or-not items, for example, we might list: The quantity of neon required to produce all the signs manufactured in a year probably would not fill an ordinary-sized bathroom; 95% of all our passenger traffic is carried in private automobiles, and the motor vehicles of the United States generate more power than all our other producers combined; the number of alloys in industrial use — five thousand — almost equals the number of stars visible to the naked eye and, like the stars, but few are named; the most abundant metal in the earth's surface, if silicon be called nonmetal, is aluminum. Aluminum accounts for eight per cent of the outer 10-mile shell, while iron can account for but five per cent. An acre of factory for the production of a synthetic rubber would, in two hours, make 200 tons of the plastic as compared with a yield of 500 pounds from an acre of rubber trees in five years.

While the Cavalcade notion pervades much of the book, it is perhaps best treated briefly in the section on meteorology and most dramatically in the section on

transportation. It does show us rather quickly how fast we are moving when we see pictures of the inside of a transport plane of 1927 side by side with one of 1937, and when we learn, additionally, that though planes may have a working life of ten years, they are obsolete for other reasons in three years.

On the whole, any reader, however skilled in any given field, will find in the treatment of other fields novelties of considerable interest in present practices. At the risk of providing an utterly loose set of reading notes (which might, however, better than anything else convey the impression of the book), a few of these may be selected. Unquestionably of interest is the growth of pedology in the Western World after its introduction from Russia. Formerly, studies in soil were made by men who really assumed the rôle of soil pathologists, trying to cure all soils by producing a common result through making up deficiencies. Pedology regards the soil as a natural body, worked on by an environment in which the active factors are vegetation, relief, climate, age, and parent material. On this basis any given soil is not lacking in terms of some standardized concept, but is inherent to its environment and has a characteristic productivity for some form of vegetation. The techniques of crop and livestock production which ensue are calibrated to these soil types and do not attempt to fly in the face of them. One of the first trends, therefore, will be the more exact mapping and study of soil types and the areas in which they occur.

Of a Jules Verne type of interest is the discussion of the new deep mines—St. John del Rey in Brazil (8,100 feet) and the Robinson Deep in South Africa

(8,500 feet). Such depths may make a difference in air temperature of 40 degrees F. and in rock temperature, of 64 degrees. Humidity is also high and, altogether, working conditions for humans are well-nigh impossible. Both mines, therefore, have artificial refrigeration. Moreover, stresses in rocks at these depths are great: "Not only do fragments fall from the roof, but the bottom heaves up and the sides burst out, much as a nut-shell flies about when it is cracked in a nutcracker." It is quite possible that the substitution of correct mechanical and structural principles will permit even deeper mining, but for the time being work in these mines should be watched closely as they are almost a laboratory of mining.

And so the story goes, in similar detail, through sugar beets resistant to curly top, micrometeorology, micro-climatology, robot weather recorders, mechanical mining equipment, beryllium, magnesium, modern steam and steam-turbine locomotives, micro-film libraries, Braille-free books for the blind, bromine from the sea, down to the lyric paean to that fair-haired Adonis, the photocell. This latter device is, of course, no novelty to Review readers, but it has certainly fascinated the authors of the report. The work lists over 200 present uses. We all know that it is used for controlling reversing rolls in a steel mill, detecting fine cracks in polished surfaces, and analyzing card records, although we seldom actually see it in action, unless it opens a door for us or sounds a burglar alarm in our presence. But whether we know it or not, this wonderful little gadget is there, leveling our elevators, controlling our drinking fountains, sorting raisins for us at a thousand a minute,



SAN GABRIEL NO. 1

One of the greatest nonconcrete dams ever built, this great earth and rock-fill dam is the latest of 19 flood and conservation structures built by the Los Angeles County Flood Control District. Height of dam is 381 feet; thickness of bottom, 1,950 feet; volume of material, 10,572,000 cubic yards (which would require a train 11,300 miles in length to haul)



lighting riding lights on our moored yachts, counting our honeybees as they flit in and out of the hive, detecting icebergs through fog and dangerous gases in tunnels, matching our false teeth, checking our auto crankcase oil in filling stations, rejecting unwrapped candy bars, maintaining coffee at uniform strength, warning a fireman when he is creating a smoke nuisance. Professor Furnas suggests that at least a million people are now doing routine tasks in this country who might be replaced by photocell devices.

To authors who have tried hard, it is unfair to deal at short length with their work on trends. When a statement as to trend is hauled out into cold light, with never an indication of the reasoning back of the prediction, false conclusions may be drawn. Recognizing once and for all that the entire work is hedged with more than adequate qualifications, and dismissing the more obvious predictions which have already been widely published, the following, selected at random, may be of more than passing interest, though not in all cases of certain validity: Germ plasm for livestock to be shipped in capsules from central breeding farms; types of stock developed by breeding suitable to regions of harsh environment; weather forecasts of increasing accuracy and decreasing significance; insulating material and artificial silk from feathers; geophysical methods slowly applied to minerals other than petroleum, but very slowly; no probability of catastrophic exhaustion of minerals; increasing importance of beryllium and magnesium, the latter perhaps a competitor of aluminum due to promising developments in increasing its corrosion resistance; not much expansion of Diesel loco-

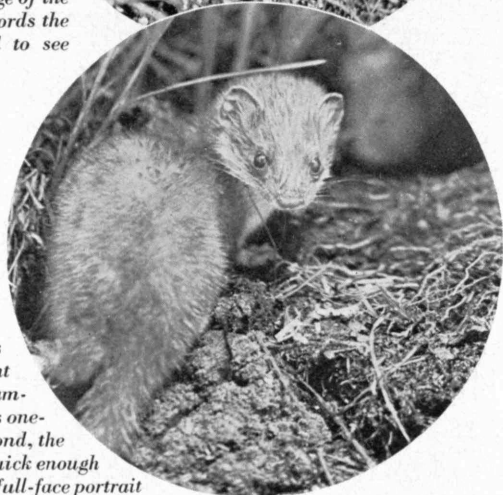
ANIMALS PHOTOGRAPH THEMSELVES AT NIGHT

At the left is the apparatus, consisting of flashlights, camera, and electrical shutter control, which a foreign photographer successfully uses to trap animals and birds into taking night-time photographs of themselves



Leon from Black Star

An owl, returning with a rodent to feed its young, alights on an electrical contact at the edge of the nest and records the event for all to see



Weasel surprised. As the flash went off and the camera clicked its one-fifth of a second, the weasel was quick enough to turn for a full-face portrait

tives except as switching engines, which seems inevitable; call service in doctors' automobiles through short-wave radio; new advances in offset printing by cooling plate cylinder with refrigerants and condensing moist, warm air, moisture being adsorbed on metal, this preventing emulsification of inks; use of polarizing screens for cutting out undesired high lights in photography; not much hope for power in tides, wind, earth's heat, thunderstorms; possible but not very imminent developments in power through solar energy, photoelectric and photochemical effects from the sun's direct rays, chemical catalyzers; electrostatic generators following the major scientific development made by Van de Graaff; entirely new treatment of cotton by harvesting whole crop as hay, drying it, powdering it by chemical treatment, extracting oil, and converting cotton into alpha-cellulose; direct rolling of molten steel; prospect of a satisfactory aluminum coating on steel with many implications in the food preservation, structural, and aircraft industries; and so to the end.

It might have been hoped that the needs for future research would be more completely covered, but this seems to have been the touchiest point of all. Possibly

any serious efforts in this direction were regarded as unnecessary, possibly as undesirable; perhaps the writers didn't know. Whatever the reason, what might have been a series of helpful comments are in many sections missing and in most sections inadequate.

Two final comments remain: No better picture of the parlous state of the construction industry could be obtained than that afforded by the slender showing of this section as compared with what is, after all, a rather magnificent pageant of the past, presented in matter-of-fact form in all the other fields of technology. Rustlings of a new spirit and a dissatisfaction with an inferior position may, however, be observed even in this section.

And, finally, in what is usually a pedestrian style, the reader may nonetheless find more than one passage of alleviating humor. Often it is unconscious, as in the case of the commentator who, after enumerating all the

wonders of electricity, ends with this note: "In homes, decorative electric fireplaces and electrically lighted Christmas trees are found." Better, though, we like the conscious contributions. It is worth all the reading to have stumbled upon this comment by an anonymous author: "The solemn progress of a few hundred pounds of freight loaded in a 40-foot boxcar from one small New England town to another is vaguely reminiscent of the interest of a circus elephant in a solitary peanut." It is a fair epitome.

Two Developments in Electronics

IN the field of electronics — that part of electrical engineering which has to do with the utilization of free electrons in vacuum tubes — there have recently appeared two developments which may have consider-

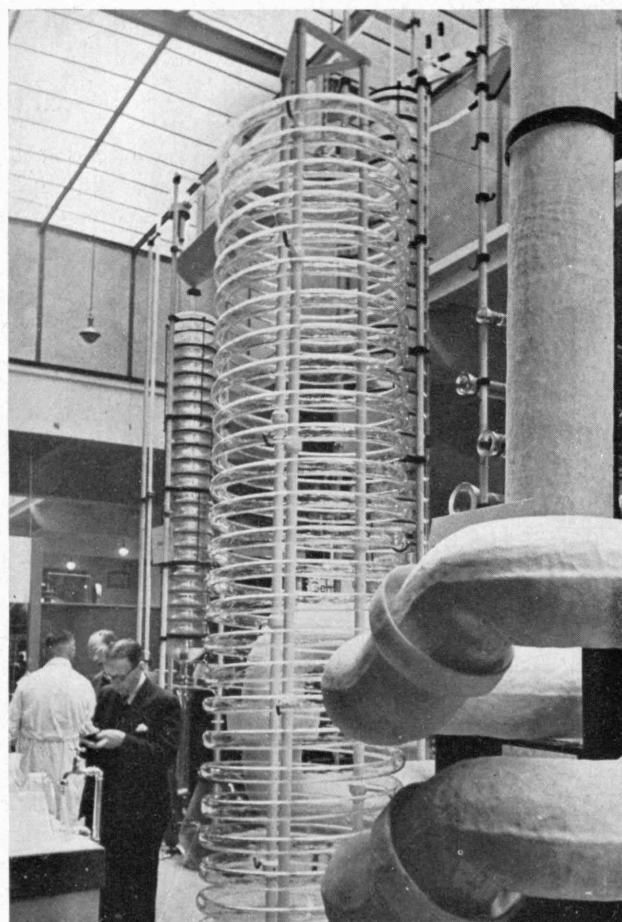
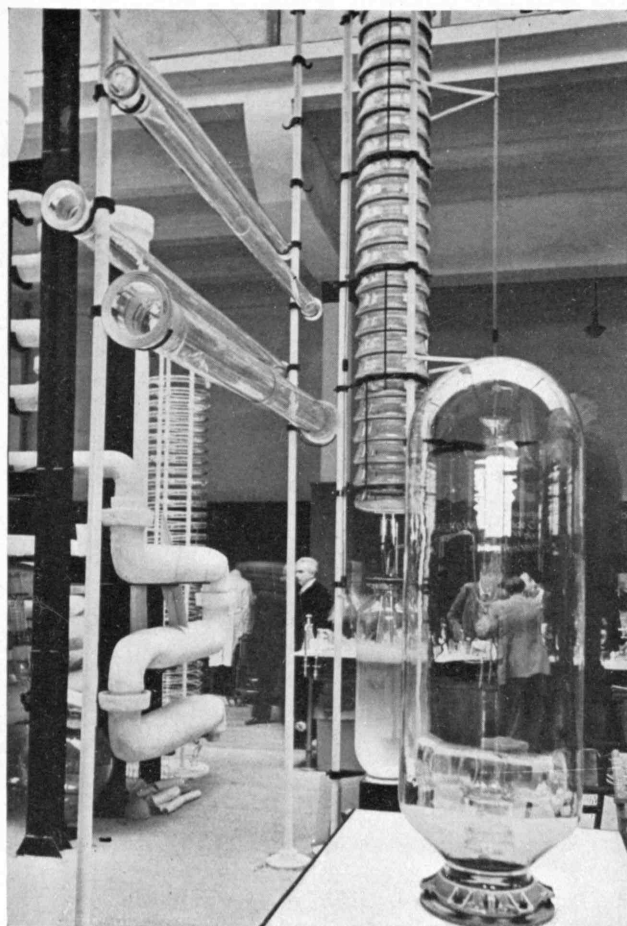


SUNKEN FOUNTAIN

Travelers on the new \$24,000,000 West Side Highway along the Hudson in New York City can see, at 79th Street, this striking circular fountain which serves also as a traffic circle. This rotunda is the central feature of a combined highway and recreational scheme that is typical of the great park and recreational developments carried out in New York by Commissioner Moses. In addition to the fountain, the rotunda contains a 220-car garage and a waterside restaurant



P. J. Woolf



Industrial and Engineering Chemistry

ACHEMA VIII

Exhibitions of Germany's chemical equipment manufacturers as seen at their eighth annual show this past summer. The large-scale exhibits included the largest vessel yet made of Havg (18 meters in length and two meters in width), and great copper tubes produced by an electrolytic process avoiding weld seams

able influence on the future of the art: The first is the magnetic amplifier, a nonelectronic device which bids fair to break the monopoly in the amplification of electric currents and voltages, which has been long held by vacuum tubes. The second is the advent of electronic communication systems in which hundreds of tubes are used simultaneously, and in which the intelligence is conveyed in mass formation rather than in the more customary single file.

From the point of view of the vacuum tube specialist, the magnetic amplifier is distinctly a subversive influence, and it is doubly threatening since, when it replaces a vacuum tube, it does so permanently. The new amplifier, unlike its vacuum tube rival, does not wear out. It consists of two elements, both long known to electrical engineers: a copper oxide rectifier and a saturable-core reactor. The rectifier — a layer of copper oxide on copper — has the property of passing current more readily in one direction than in the opposite direction. Consequently it can convert a reversing alternating current into a unidirectional direct current. In the amplifier, direct current so produced is conducted through a coil of wire wound on an iron core. The passage of sufficient direct current through the coil increases the density of magnetic lines of force within the core to the

saturation point. When the core is in this condition, additional lines of force can be created in it only at the expense of great increases in the magnetizing current.

On the same core is wound another winding; through this winding is passed *alternating* current from a local source. The ease with which this alternating current passes through the second winding depends on the degree of magnetic saturation in the core, and the saturation in turn depends on the amount of direct current passing through the first winding. Hence the direct current can be used to control the alternating current. Furthermore, a small change in the direct current will produce a much larger change in the alternating current. In other words, amplification takes place. The amplified alternating current is then converted to direct current in a second copper oxide rectifier, and this direct current is used to control a much larger alternating current in a second saturating-core reactor. The process may be repeated many times. In practice, up to five successive stages are used, with an over-all power amplification of one million. The input power to the first stage may be as small as one-millionth of a watt. The initial control may come, for example, from a light-sensitive phototube supplying less than a millionth of an ampere, while the final output (*Concluded on page 38*)

Food

New Ways of Preserving, Preparing, and Distributing It in Increased Quantity and Quality

BEING A COMPILATION FOR DYSPEPTICS, AS WELL AS EPICUREANS, OF RECENT ADVANCES IN FOOD TECHNOLOGY AS ANNOUNCED BY FORTY SPEAKERS AT THE RECENT TECHNOLOGY FOOD CONFERENCE

THOMAS ROBERT MALTHUS, now dead a century, is remembered because he wrote a remarkable essay on population in 1798, and greatly expanded it five years later. He argued in his first paper that population growth, unless it be somehow checked, would increase in a geometrical ratio, whereas food supplies could increase only at a much slower rate and would reach an ultimate limit. The result would be poverty, misery, and disease. In the more exhaustive treatise, he played down the matter of the ratios, but adhered fast to his principle of the universal tendency of a population to outrun its means of subsistence.

Malthus thus made himself the man of his time who was most concerned with a thoroughgoing answer to the one question propounded repeatedly — more than any other since Noah: How shall we eat? For as was succinctly stated by a speaker at the Food Technology Conference held at the Institute last September: "Whether we are epicureans and love to eat, or whether we are dyspeptics and merely eat to live, it is nevertheless true that we must eat."

Public opinion during Malthus' generation was greatly influenced by his theories and, although his ideas subsequently languished in esteem as his dire predictions were not fulfilled, they have, nevertheless, reappeared from time to time in recurring cycles of interest and disinterest. Perhaps he might have foreseen the colonization of the 19th Century, which was to open new areas as sources of foodstuffs, and possibly he might have guessed that means of transport would develop to connect these new sources with the older, settled areas. Apparently he did not. However, to criticize this English economist for having had no conception of the astonishing changes which science and invention were to bring about in food technology long after he was in his grave is manifestly unjust.

Based on previous history, Malthus very logically thought that warfare and disease might be counted upon to check population growth and thus help by leaving fewer mouths to share what food there was. He never could have dreamed that, paradoxically, the food demands of an army would stimulate one method of preserving the perishable surpluses of harvests. Yet it was during the Civil War that the American canning industry underwent its first real boom.

Today, as the 40 speakers at the Institute's Conference showed, we have a food technology almost totally reorganized in the last 25 years through the control of materials and of the chemical, biological, physical, engineering, and economic factors governing the usa-

bility of foods by mankind. A housewife's preparation of the family dinner has been translated from a perplexing and largely domestic process to one simplified through factors of great industrial significance which have made her choice of menus now largely independent of seasons or geography. Many items hitherto regarded as luxuries are now inexpensive, and the housewife has become conscious of nutritive values as well as anxious about purity and taste. Her well-exercised insistences as to the flavor, color, and the freshness with which her ingredients or prepared foods are delivered have been expanded to include concern about the kinds, sizes, and shapes of their containers.

All this suggests a few of the perplexities confronting the food technologist. For example, even under modern conditions the problem of marketing preserved citrus fruit juice at first glance seems easy. That it is essential for the juice to be heated rapidly to ensure commercial sterility without flavor change, that it should be deaerated and canned as soon as possible after extraction from the fruit, and that the canning process should be continuous, are some of the problems. Of course, for the best juice, one recognizes that the fruit must be fresh, tree ripened, and perfect; frozen, malformed, or decayed specimens must be culled out. The extraction process involves machinery to grate the fruit to remove oil, to press the fruit to squeeze out the juice, and to strain the juice to get rid of seeds and pulp. Removal of oxygen must be accomplished by boiling the juice under high vacuum and, consequently, low temperature, yet with a continuous flow of liquid for delivery to the container cans at around 100 degrees F.

It is at this point that real complications arise, for temperatures must be boosted to about 100 degrees and the cans passed to a machine where, in a high vacuum, steam is injected into each can through a patented valve to "flash heat" the liquid to a sterilizing temperature of 210 degrees F., after which the can is sealed and passed along for quick cooling and labeling. This, the so-called Stero-Vac machine, does its job in about ten seconds, eight of which are used for steam treatment, during which interval the temperature of juice is jumped almost 100 degrees.

Any brief description would hardly do the process justice, but it does suggest that canning citrus juice is no elementary affair. One might dwell at some length upon the neat problem of making sure that the dilution of the juice due to condensation from the steam injected during the sealing compensates exactly for the water previously removed along with the oxygen. Then,

too, if we were dealing solely with grapefruit it would be all right to use plain tin cans, but orange juice changes flavor if exposed to tin, and cans for it must be lacquered.

Flash heating, on which over 50 important patents are recorded, is based upon a principle that quality in color and flavor is conserved by heating food to sterilizing temperatures rapidly and cooling it rapidly after sterilization. Tomato juice processed this way is said to hold its fresh, uncooked flavor; pineapple juice, likely to lose both color and flavor during storage, behaves better if preserved by flash heating. Moreover, the process is not confined to juices: Some promising experimentation has also been conducted with whole-grain corn, peas, string beans, and lima beans, and with evaporated milk.

However, quick freezing rather than quick or flash heating is more commonly thought of today as a revolutionary method of preserving vegetables. The widespread installation of refrigerating equipment to handle the distribution of quick-frozen foodstuffs affords ample evidence of consumer acceptance. While at first novelty undoubtedly provided the sales appeal, the proven excellence of the product has maintained and increased sales.

With new and rapid chemical means, which make it possible to replace the former rat and guinea pig assays for Vitamins A and C, proponents of the quick-freezing method may now publicize data comparing the nutritive values of various vegetables in their fresh or natural state and after freezing. Not only will a zealous housewife know that spinach, broccoli, carrots, asparagus, squash, green and lima beans, and yellow varieties of sweet corn rank high in Vitamin A, and that among the best in Vitamin C are cabbage, peas, tomatoes, and sweet peppers, as well as a select few already mentioned for their Vitamin A content; she will know also how strong a grip each has on its vitamins when rapidly slammed down to subzero temperatures.

Freshly picked green peas, by way of illustration, have long been ranked as a first-rate source for the antiscorbutic Vitamin C, but if held in the pod at ordinary room temperatures for a week, they will be found to contain little of it. That preserving by drying or canning will cause the loss of much of this beneficial attribute is axiomatic. On the other hand, it is now known that *freshly frozen, hand-shelled* peas retain the same Vitamin C content as the freshly harvested product.

Quick freezing has recognized applications to sea food and meats also. Many of the methods for the preservation of fish date from ancient times: Drying in the sun, salting dry or in brine, pickling in vinegar, cooking and keeping in oil have undergone no particularly notable change for years. Although all these are practical, they do, nevertheless, have a tendency to alter the taste, and the development of modern commercial fisheries is due in no small measure to the demand for fish that tastes as fresh "as just out of the water."

In Great Britain, for instance, herring of superior quality are caught in quantity only during the summer and autumn, whereas they are served on breakfast tables throughout the year. This involves storage of the fish for periods up to six months—now accom-

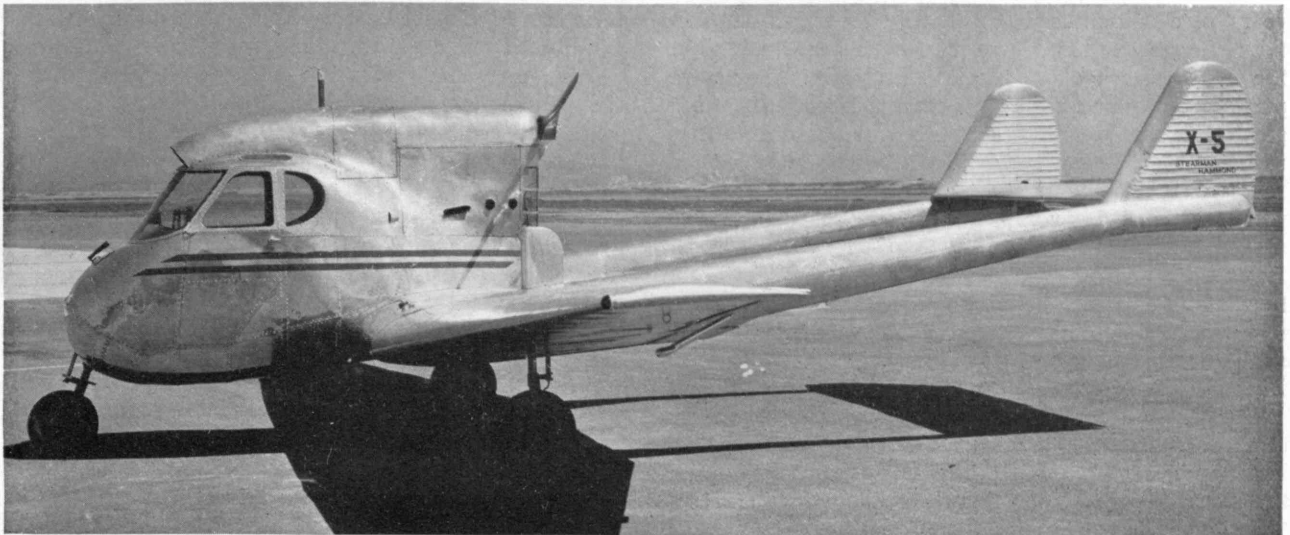
plished by means of rapid freezing, followed by glazing with a shell of ice, and cold storage at temperatures as low as 18 degrees below zero F. A half year later the herring thus treated may be kippered and are, to the English consumer, practically indistinguishable from freshly kippered fish.

Besides freezing fish hard and keeping them that way until they reach the retailer or consumer, cold has, of course, another field of usefulness in which the fish are simply chilled by packing in ice or snow. Although this precludes shipment to more distant markets, it has some economic advantages. Fish are a highly perishable form of food, with an internal supply of enzymes and an arrangement of blood vessels, bone, and muscle fiber making them an easy prey to deterioration and to abundant supplies of microbes in the superficial external slime. Consequently, it has become current practice in some quarters to introduce mild antiseptics, such as hypochlorites, in the ice used on fishing boats or in the solution in which round or dressed fishes are washed thoroughly before packing. The need is for the discovery of some more powerful antiseptic which is still harmless to humans, and which laws will permit fishermen to use. In canning sea food there is emphasized the difficulty of pleasing the buyer's eye as well as his taste. Thus it came to be known that the addition of a very slight amount of acetic acid would prevent clams darkening in the can and, similarly, Canadian packers learned to rinse lobster meat in a weak citric acid solution because they found it effective in preventing darkening.

Although, as mentioned earlier, the system of quick freezing has been applied to meats, its use is still restricted principally to relatively thin products such as chops and steaks and halves of chickens, and it has not yet been sufficiently developed commercially to meet the requirements of quarters of beef or a whole lamb carcass. When further research does yield a real solution to this need (as it doubtless will), it will be a happy day for such meat exporting countries as Argentina, Uruguay, Australia, and New Zealand.

Recently there have been French experiments based on the principle of quick freezing by a brine spray kept at a temperature of -14.8 degrees to -22 degrees F. The beef quarter is placed within a latex rubber bag, and by a vacuum pump the air is removed from the bag, thus making perfect contact between the meat and the brine shower where the quick freezing takes place. Hind quarters can be passed through the range of 32 degrees to 28 degrees F. in about five hours, but in order to reach 3.2 degrees F. in the center of the mass, 15 hours to 16 hours are needed. During thawing the bag protects the meat against outside atmospheric condensation as well as contamination from dust and microorganisms in the air. In addition, the oxidation of fats, which is the greatest danger in cold storage, is reduced to a minimum. A variation, using sugar spray in the place of brine, of this "Z-freezing" method has been developed in the United States for the freezing of fruits.

One important immediate possibility, now under consideration, is the use of the several systems for quicker chilling, inasmuch as chilled beef to the value of twenty million pounds sterling is annually imported into Great Britain from South America (*Continued on page 52*)



Huller

FIG. 1. NOW IN PRODUCTION

A far cry from the average small boy's conception of a plane is this Stearman-Hammond. Note the tricycle landing gear that is rapidly becoming common

“Good-by, Mrs. Grundy!”

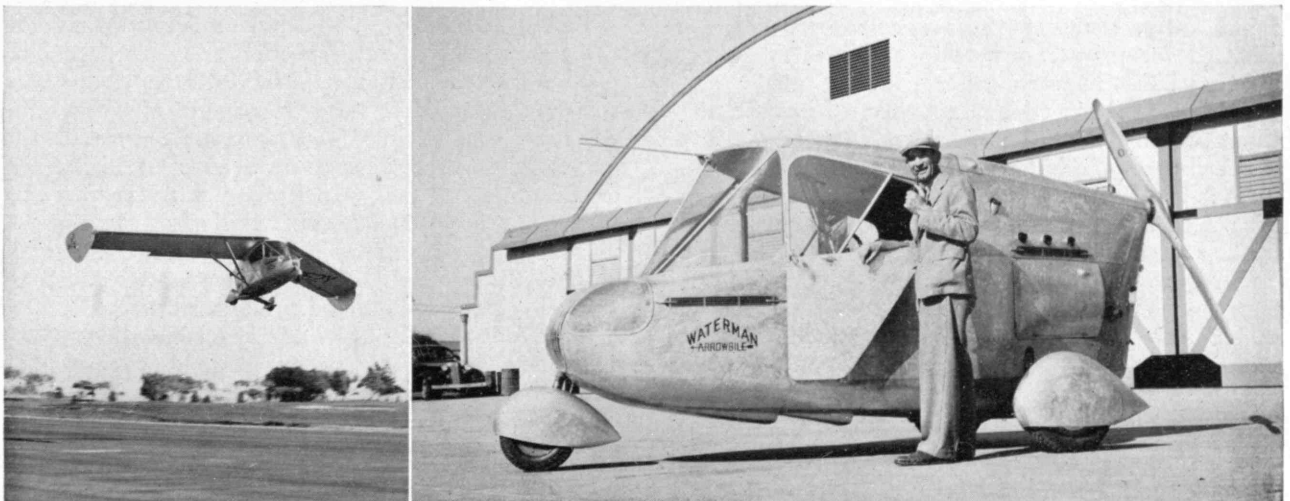
Airplane Designers at Last Escape the Conventional

BY S. PAUL JOHNSTON

MOST promising sign of the times, aeronautically speaking, is the great rash of originality that is breaking out on engineering draughting boards all over the country. For better or for worse, designers' minds are more and more frequently jumping out of the grooves in which they have been running for the last 10 or 15 years and, willy-nilly, are beginning to roam about in virgin territory. Out of this new exercise will probably come a junk yard full of “jallopies” that didn't turn out quite as their fond parents hoped, but,

beyond all shadow of doubt, someone, somewhere, is going to turn up something that will have a fair chance to change the whole pattern of current design thinking. And in the process, those of us who make a job of telling the world what is new in aviation won't have to scratch our heads so often to find synonyms for the word “conventional.”

Two major factors may well account for the change: First, a new generation of designers is just beginning to break through into the top ranks, men whose formative



Aviation

FIG. 2. AUTO-AIRPLANE

Waldo Waterman's Arrowbile. It can park its wings (right) and take to the road, or don its wings and fly (left)

years were not influenced primarily by war-time practices and necessities. These men have been trained in the technical schools in the last ten years. They have participated in and have had access to the results of the great research programs conducted in our universities and at Wright and Langley Fields. Not only have they had new tools with which to work, but they are still young enough to have kept their minds free from any rigid conformity to precedent.

Second and equally important is the fact that a return of relative prosperity to this country lately has released for new development funds that had been unavailable during the early Thirties. The pressure of ideas built up during the seven lean years is now being released into useful channels. With a little luck and a great deal of good management, the American aviation industry is now doing its best to take advantage of the current opportunity to turn out something really new before those channels may again be closed.

Although the late-lamented National Air Races of 1937 in themselves made little direct contribution to

teristically swept-back wings carrying a fin-and-rudder combination on each tip. Wings are quickly detachable, are designed to be shed and stored at the airport, leaving the body as a self-contained, roadable vehicle. The power plant is a standard Studebaker automobile engine with but minor modifications. In the air the engine drives a pusher propeller through a multiple V-belt drive; on the road the propeller is disconnected, and the drive is to the wheels through a chain. As an airplane, the Waterman is of the two-control type, with rudders and ailerons interconnected to operate simultaneously from rotation of the pilot's wheel. Fore-and-aft movement of the wheel gives the usual longitudinal control. Production of Arrowbiles is now under way in Santa Monica, Calif. Studebaker is said to be planning to feature them shortly in a national sales campaign.

Latest in unconventionalities on display at Cleveland was the Gwinn Aircar (Fig. 3). Joseph Gwinn is an old hand at the design business (he was with Consolidated Aircraft for years and fathered the Fleet Trainer) and is a gadgeteer par excellence. His Aircar is as full



FIG. 3. AIRCAR

Unconventional and full of new ideas is this Gwinn Aircar

design technique, they did furnish a background for the public display of several machines that illustrate the point. Present at Cleveland were four airplanes of distinct promise that were outstandingly unconventional. Significantly, none of these were racers; all were designed for private ownership and use; all are (or shortly will be) in active production.

Oldest of the lot (although, actually, it dates back only about two years) was the Stearman-Hammond. Winner of the Bureau of Air Commerce design competition in 1935, it is now in commercial production in San Francisco. All metal, a pusher with twin-boom supported tail surfaces, it is a far cry from the average small boy's conception of a flying machine (Fig. 1). Chief interest from the pilot's point of view is the two-control feature. Rudders are nonexistent, turns being made with the ailerons only.

Of even less conventional outward appearance was Waldo Waterman's Arrowbile (Fig. 2). It was designed to give its owner not only an airplane but also a means of transportation between home and airport. It is of the tailless variety (an idea that dates back to the Burgess-Dunn of 1912, and one that has been developed extensively both in Germany and in England), with charac-



FIG. 4. THIS NEW WACO N

... is the first of the old-line airplanes to use the tricycle gear

of new mechanical ideas as the proverbial dog is of fleas. Basic idea was for a compact, close-coupled machine of simplified control for Mr. John Q. Citizen. Automobile-like appearance, finish, and operation were sought — and attained. There are but two flying controls; as in the Hammond, there is no rudder, although Gwinn has provided an adjustable tab to compensate for slip-stream effect between the power-off and the power-on conditions. Of aerodynamic interest is the use of markedly thin sections in ailerons, flaps, and elevators behind fairly thick wing and stabilizer sections. The combination gives relatively wide changes in effective wing camber (and, consequently, of lift), with relatively small changes in section drag. Longitudinal control is restricted mechanically so that it is difficult to stall the machine at normal operating speeds.

One surprise feature at Cleveland this year was the appearance of a new Waco, complete with tricycle landing gear (Fig. 4). Engineers at the Troy, Ohio, factory have been experimenting with the new form of gear for over three years. In the new Model N (now in production, with deliveries promised shortly after the first of the year), they have the first of the old-line airplanes to adopt the nose wheel as standard.



FIG. 5. WEICK WORK

Fred Weick's landing gear encouraged the present trend

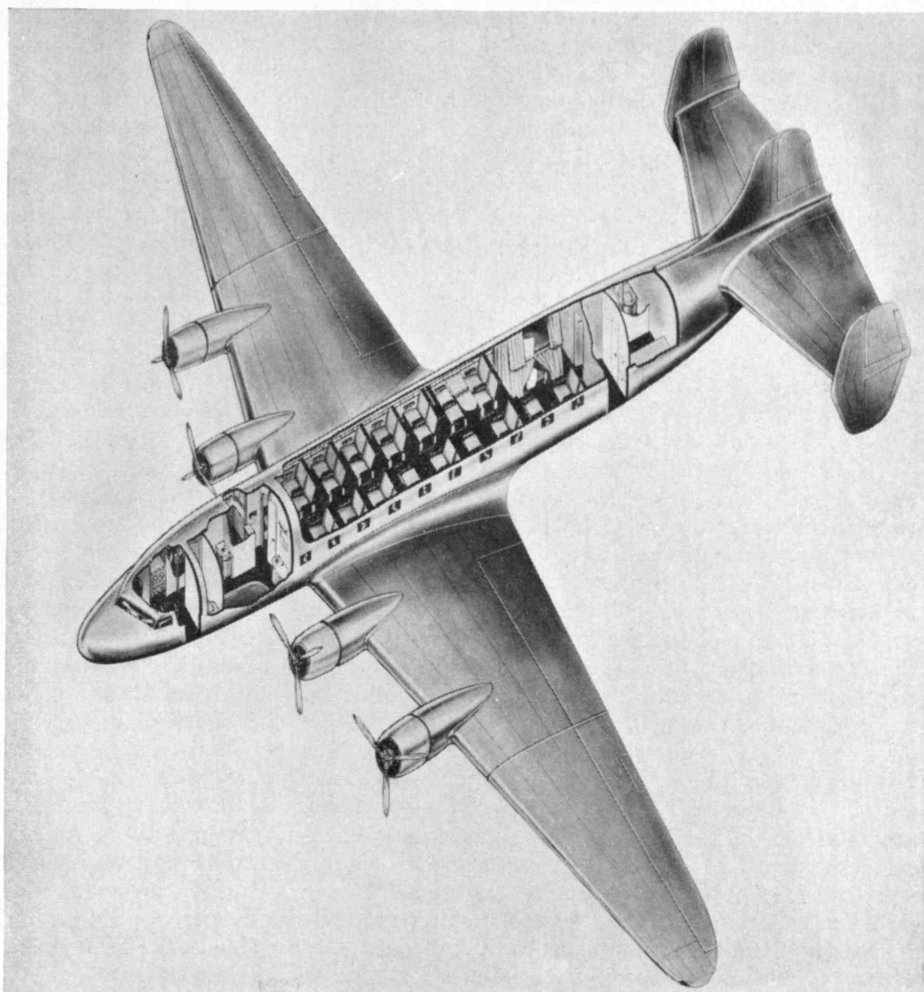
Striking, of course, is the use of the tricycle landing gear on all the design novelties on display this year. It typifies, however, a definite trend in United States design thought. It is not impossible that, aeronautically, 1937 will be remembered as the year in which the three-wheeled gear came back into its own. The words "came back" are used advisedly, for the idea is far from new. Glenn Curtiss used it on his earliest machines, but it proved to be one of those things that were pushed into the background in the days of frenzied war-time design

and stayed in the background until recently. Among the first to revive the idea successfully was Bill Stout in his Sky Car of 1931. He was followed shortly by Fred Weick, who, when still on the staff of the National Advisory Committee for Aeronautics, built such a landing gear into the W-1 airplane (which he and some of his associates in the N.A.C.A. built several years ago as a private venture), and the results were encouraging enough to establish the present trend (Fig. 5). Latterly, design studies by the Bureau of Air Commerce and the N.A.C.A., and a long series of full-scale tests on a revamped Douglas Dolphin at Wright Field, have furnished the necessary design data. How far the movement toward the three-wheeled gear has gone is best illustrated by the fact that the new Douglas transport (Fig. 6) incorporates this feature.

In fact, for safe and comfortable operation of the huge air liners in immediate prospect, the tricycle gear seems practically dictated. Especially for blind landings in small fields many operating men think there is no alternative. And anyone who has ever spent a night in sleeper planes on conventional landing gear can readily recognize the advantages of berths which will remain level in take-off, in flight, and in landing. It is a fairly safe prediction that the tricycle-type landing gear will be standard equipment on passenger planes by 1940.

FIG. 6.
NEW DOUGLAS

This huge four-engined transport, DC-4, now abuilding at Santa Monica, will have tricycle landing gear



Whittington

Tomorrow's Telephones

New Achievements in Projecting the Voice

BY GEORGE R. HARRISON

TODAY in New York's vast Bell Telephone Laboratories, the leading research and development organization of the telephonic art, more than four thousand men and women are working on the telephones that we will be using next year, in 10 years, and in 30 years.

First come the technical engineers, testing newly designed transmitters which will screw into the present desk set, new automatic switchboards which will give increased accuracy and rapidity of service, new transmission lines which will cut down the cost of long-distance messages. Behind these technicians are the development engineers and applied physicists, devising new filters to separate one telephone conversation from another, hunting for new and better magnetic alloys, designing telephone clocks that tick a hundred thousand times a second.

Behind them all are the Bell physicists, who are studying fundamental processes which have a bearing on sound and electricity. Usually they attack problems which can be made to tell why something behaves or misbehaves as it does. But those in charge worry very little over what this fundamental work will bring forth, for in the past it has resulted in achievements worth far more than its cost, or than the imagination could picture in advance.

WHAT is probably the greatest single telephone advance since the invention of the vacuum tube repeater is now on the verge of commercial use. This is the coaxial cable, one of which has recently been installed experimentally between New York and Philadelphia. Over this line, a copper tube with a wire inside will carry 240 simultaneous conversations, an apparent miracle made possible by the crystal wave filter and the vacuum tube.

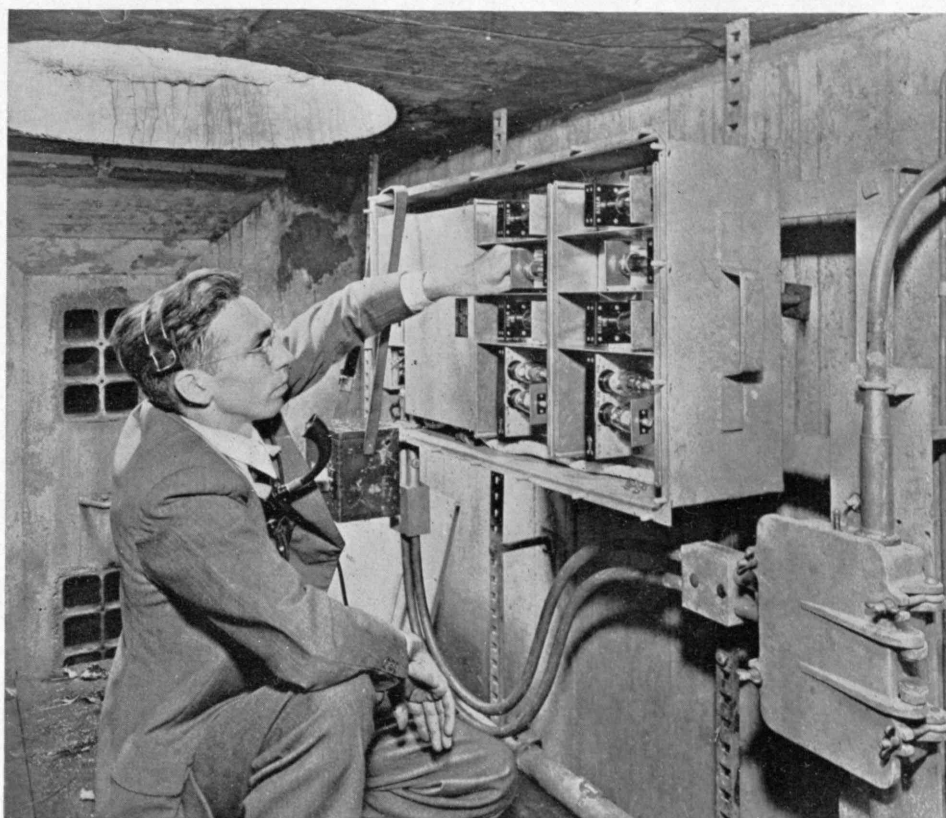
The problem which had to be solved was this: How can we combine the 240 wavy lines of 240 conversations into a single wavy line, send this over the long-distance wires, and then separate it into its original wavy lines at the far end? The first part of the problem is readily solved; the phonograph, for example, mixes the sound waves from the violins, the oboes, and the rest of the orchestra into a single wavy line which it records. The unscrambling is the hard part of the problem. It is as though we were to take 240 inks of different colors, ranging from red to violet, which we must pour all together into a pipe, let their mixture flow through this pipe, and then hope to get the inks separated at the far end. To accomplish this feat, we must first invent a suitable method and then find means to carry it out.

DISCOVERIES WHICH COME FROM TELEPHONE LABORATORIES SHOW WHAT CAN BE EXPECTED OF AN INTELLIGENTLY PLANNED, LONG-PERIOD CAMPAIGN OF RESEARCH, AND HOW POWERFUL IS THE COMBINATION OF FUNDAMENTAL SCIENCE, APPLIED SCIENCE, ENGINEERING, AND TECHNICAL ARTS

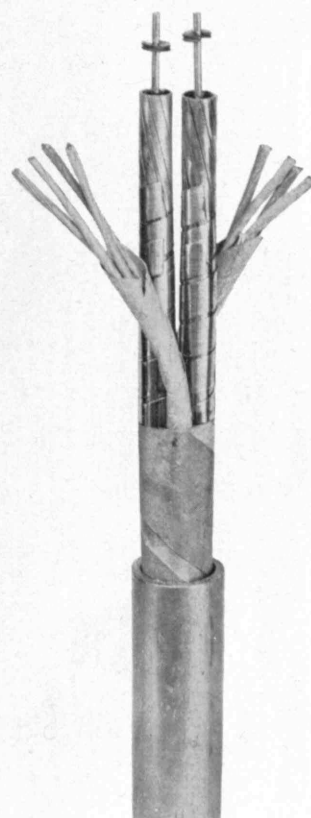
We can solve the problem by using carriers. Let us buy white, porous marbles in 240 sizes. Then we will soak the biggest marbles in the red ink until the ink has all been absorbed, wipe them carefully, and dry them. The marbles of the next size we dye internally with the ink of the next color, and so on down to the violet ink, which goes into the smallest marbles. Now send the marbles through the pipe — they will roll through, although we may need to change the pipe slightly to keep them from sticking at its joints. At the far end, arrange holes so that all but the largest marbles will drop through into another pipe. From there, all but the second largest can be made to drop through into a third pipe. Two hundred and forty such strainers would automatically separate all the marbles into their size groups, and hence the inks into their colors. Now let the marbles of each color drop into separate water baths where the ink pigments will dissolve, and we get our 240 different-colored inks separate and uncontaminated, after having flowed together through the same pipe.

Actually the telephone problem is even simpler. Instead of marbles, electrical vibrations are used. The biggest marbles correspond to vibrations of over a million a second; the smallest, to 60,000 vibrations a second. Vibrations can be fastened together just as ink will go into porous marbles. The ink of one color represents the wavy line of one telephone conversation. Each conversation is made up of vibrations ranging from 60 to 4,000 vibrations a second; so when it is applied to a 60,000-vibration carrier wave, there result vibration rates between 60,060 and 64,000. Another conversation is applied to a 64,000-vibration wave, and so on until 240 conversations have been applied to waves of different vibration rates. Then these conversations are all sent together over the transmission line. At the far end, electrical filters corresponding to the marble strainers separate the different numbers of vibrations, those from 60,000 to 64,000 going into one line, those from 64,000 to 68,000 into another, and similarly for the rest. It is as easy then to separate the voice waves from the 60,000-cycle carrier as it is to dissolve the ink from the marbles, and the seemingly impossible has been accomplished.

But now that we know how to carry out the process, there are still two problems which worry us: The first is how to get a pipe to carry the marbles, for an ordinary telephone line will not permit million-cycle waves to flow over it very far. Research has shown, however, that high-frequency waves will travel along the line if one copper wire is made into a pipe and the other is put inside it, the two being separated by insulating material.



Bell Telephone Laboratories



240 CONVERSATIONS

... can be carried over the coaxial cable (right) which is, basically, a copper tube with a wire inside. On the left, is a million-cycle coaxial repeater on the cable line between Philadelphia and New York

The current must be amplified every ten miles, but this can be accomplished with vacuum tubes. So the latest two-way, long-distance cable consists of two pipes wound up of copper tape, with two small copper wires inside them, all bound together with insulating material in a lead sheath.

The second problem to solve is how to construct filters to separate the various carrier waves. Such filters can be made of ordinary electrical condensers and coils, but filters made from these alone are found to be insufficiently precise in their selection of the vibrations they transmit, and if used would allow the various telephone conversations to overlap and become mixed. This difficulty was resolved by making use of a discovery of physics, the piezoelectric crystal, an academic toy which lay around for 37 years before it was found useful.

The brothers Pierre and Paul Curie in 1880 found that crystals of quartz and certain other materials shrink or expand when given an electric shock. These scientists were typical impractical physicists (Pierre, with his wife, later discovered radium), interested in digging out truth whether they found any gold or not. Their discovery lay unused until a telephone company physicist decided, during the World War, that the sensitive crystals might be helpful in detecting submarines. His work was so successful that it suggested further fields for investigation, and by tracing the details of the story one can see how the success of the final crystal wave filter resulted from the work of pure physicists, applied physicists, theoretical engineers, network de-

signers, and, finally, technical men. What the crystal does is to vibrate mechanically in response to electrical impulses having vibration frequencies in one definite narrow range, and to no others. But it is not sufficient merely to stick a crystal into a telephone line, for when this is done, too narrow a range of frequencies is let through. The calculations of mathematical physicists showed how to combine a pair of crystals with condensers, coils, and other electrical devices to make a filter which would transmit just the vibration range desired in each case and strain out the rest. So quartz went into the telephone system.

What a lot of human emotion we are thus enabled to pack into one small pipe! Flowing through the copper at 50,000 miles a second go mixed together a hundred business and personal conversations carrying good news and bad, the raucous laughter of a radio comedian entertaining millions, telephoto currents carrying the picture of an airplane landing across the sea, and perhaps impulses sent by one small stenographer to operate a dozen typewriters in as many cities. And coursing along beside these, as unconcerned as though they were not there, goes ordinary electric power to light the filaments in the amplifiers and set free the electrons which are to amplify the wavy line which carries them all.

BEFORE very long we may have the self-answering telephone, even though telephone engineers in this country are disinclined to commit themselves on its commercial possibilities. Most of us (Continued on page 40)

Richard Cockburn Maclaurin

A Review of Professor Pearson's Biography of Technology's Sixth President

BY DAVIS R. DEWEY

RICHARD COCKBURN MACLAURIN was the sixth president of the M.I.T. Two of his predecessors have been honored by biographies — Rogers by Sedgwick and Walker by Monroe. This third* — Maclaurin by Pearson — is a worthy member of the triad. In earlier life Mr. Maclaurin, in an introduction to a volume of selections from Ruskin's "Praeterita," wrote: "The most entrancing type of literature is good biography." "Entrancing" is a strong word, and somewhat foreign to this writer's vocabulary; but I am in agreement with its implications. I read the volume, if not at onesitting, at least with no interruptions by other reading.

The immediate friends of Technology, I am confident, will be interested in Professor Pearson's portrayal of the early life of President Maclaurin. This was a life of struggle. Of Scotch birth, he was transplanted with his family at the age of four to an outlying settlement in New Zealand, adjoining the Maoris. His father was a missionary preacher and subsequently a schoolteacher. Spiritually and intellectually his inheritance was of the best, and privation did not lower the standards of this gifted family. Richard, the youngest child, disclosed early an exceptional mental talent, and everything was done to further his education. His own ability enabled him to win scholarships and prizes whereby he proceeded until, at the age of 22, he was graduated from University College, Auckland. Encouraged by his professor of mathematics, he entered Cambridge University in England.

Known as a "working man," he won prize after prize in the field of mathematics and physics. Notwithstanding this long discipline and apprenticeship, he was still unsettled as to the future. At 27, he turned to the study of law. Two years later he was persuaded to apply for a professorship of mathematics at Victoria University College in Wellington, and later he was made dean of its newly established law school. Almost immediately after a brief service in this new undertaking, he accepted a professorship of mathematical physics at Columbia University. In less than a year he was approached by the authorities of Technology to fill the position of president. This condensed summary illustrates the rapid accomplishments of our former president. And these accomplishments were continued: The total assets of the Institute in 1909, when he took office, were less than \$5,000,000; at his death they had increased sixfold, and the number of students had risen from 1,479 to 3,078.

* Pearson, Henry Greenleaf, "Richard Cockburn Maclaurin: President of the Massachusetts Institute of Technology, 1909-1920." The Macmillan Company, 1937.



"WITHIN THREE YEARS

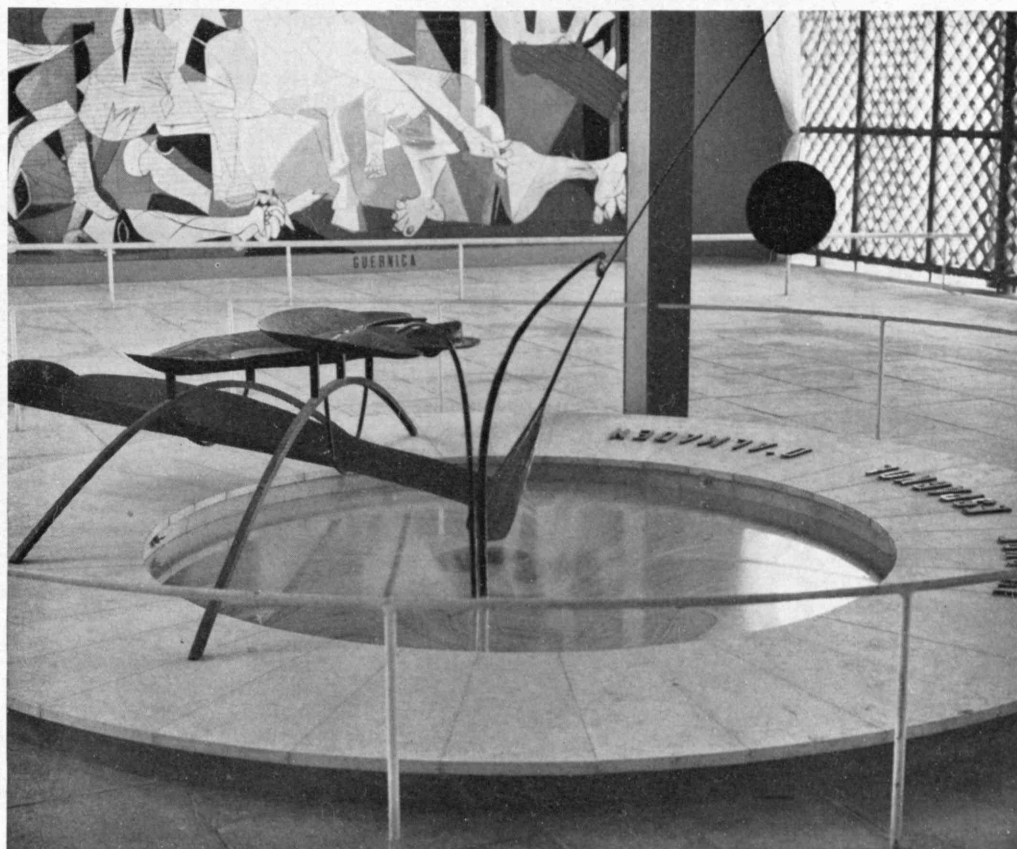
... this young outlander had found for the Institute its most spectacular source of wealth. Within seven years he had triumphantly installed it in its new \$12,000,000 home on the Charles. Within ten years he had for the first time secured for it an endowment of the dimensions that its place in the world demanded. Within eleven years he was dead."

Naturally, this biography is of first interest to graduates and closest friends of Technology, but aside from these, it should attract all who are interested in the fundamental problems of education. We find here a fresh interpretation of the educational creed of President Rogers. Maclaurin was no imitator, however; he arrived by independent thinking and experience at substantially the same conclusions as to the aims of education and the methods by which it is to be attained. Fortunate, indeed, was Technology to gain a leader who, notwithstanding the clouds which hovered over the Institute, never foreswore this creed. Again and again President Maclaurin in his addresses refers to President Rogers, in no slavish imitation, but to illustrate and reënforce his own convictions. Evidently he had not slighted Sedgwick's "Life of Rogers," which was sent to him by Mrs. Rogers as soon as his election was announced.

This volume, therefore, has a double interest — an interest not only to Technology graduates and friends who wish to know more of the personal life of their former president, but also to an outside and more extensive circle concerned with the vital problems of education. Although the biography is entirely satisfactory on the personal side, I believe its chief and more lasting service should be to the wider group. This does not imply that Professor Pearson has written an educational treatise. He is entirely free from any such comment. President Maclaurin must bear the responsibility, for he was in himself an educational treatise. Few men have groped so long in their endeavor to discover the meaning of education, and, to his honor, Maclaurin finally arrived at a satisfactory conviction. These gropings and ultimate conclusions — if they may be called ultimate for a life cut short in the heyday of activity — are described with candor and fidelity. (Concluded on page 40)

MERCURY FOUNTAIN

This fountain without water, created by an American sculptor, Alexander Calder, is in the Spanish Pavilion. Millions of francs of quicksilver fall down the gracefully balanced slopes in "unpredictable convolutions." The background mural in black, gray, and white is by the Spanish painter, Pablo Picasso, and depicts the sufferings of the Spanish people and the destruction of the country



Paris Exposition 1937

NOT THE TOURIST VIEW, BUT AN ALBUM OF SALIENT DETAILS

ASSEMBLED BY A. LAWRENCE KOCHER

AN international exposition, such as the Fair held in Paris this year, serves a double purpose: It assists our generation to obtain a clearer and deeper knowledge of international aspirations and possibilities. It draws attention to and brings forth the new facts established in art and technical science, established by time as more than a passing phase in the technical and spiritual evolution of a period.

Earlier expositions, and there have been many in the past century, have combined mercantile, entertainment, and educational aims. In recent years, however, regional and district fairs have replaced the international exposition with purely business purposes, leaving more national aims for the larger fairs of international representation.

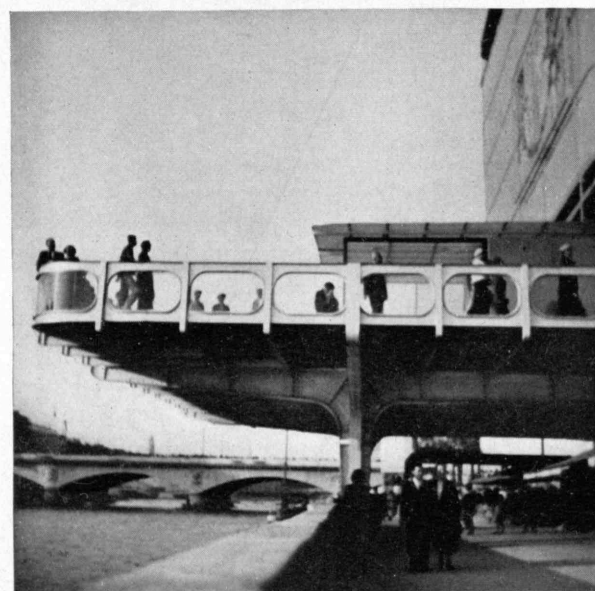
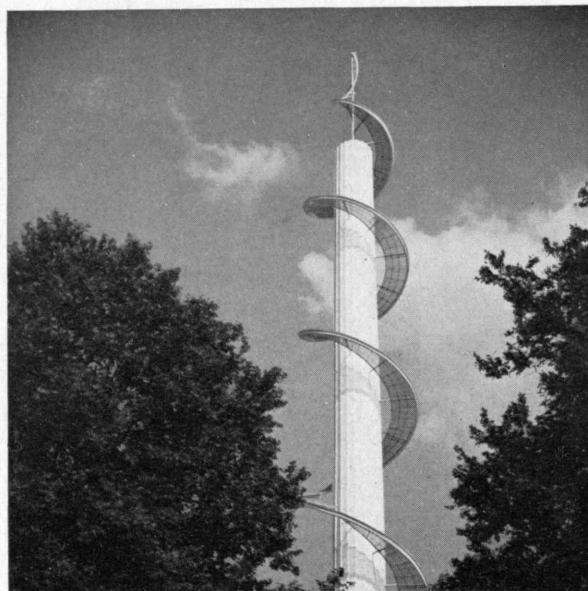
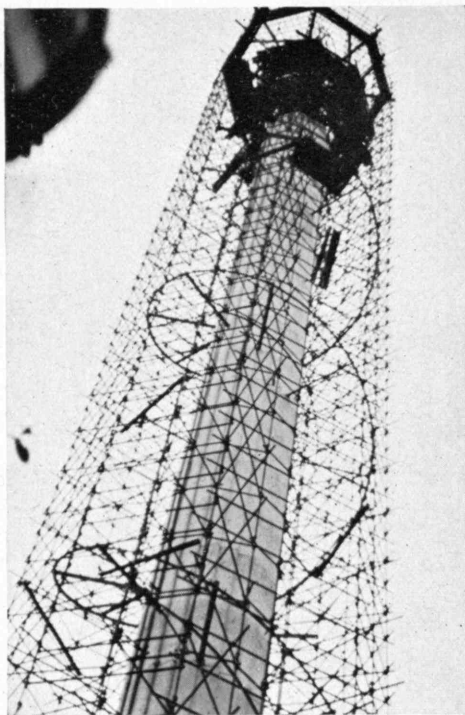
The Exposition of this year straddles the banks of the Seine near the center of Paris, occupying the exact site of the Exposition of 1900. It extends from the Trocadéro to the École Militaire. Because of the great number of trees in the area, individual rather than extensive or

collective buildings were decided upon. The longer axis of the plan follows the banks of the Seine and stretches a distance of almost two miles from Pont Alexandre III, near Place de la Concorde, to Pont de Grenelle at the other end. Two of the Paris bridges have been incorporated in the exhibition and a new roadway tunnels beneath the river. The pavilions follow the banks of the Seine and cluster around the Eiffel Tower.

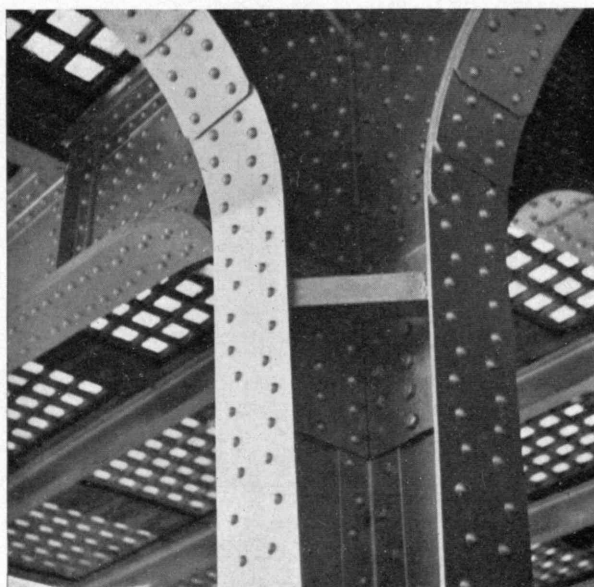
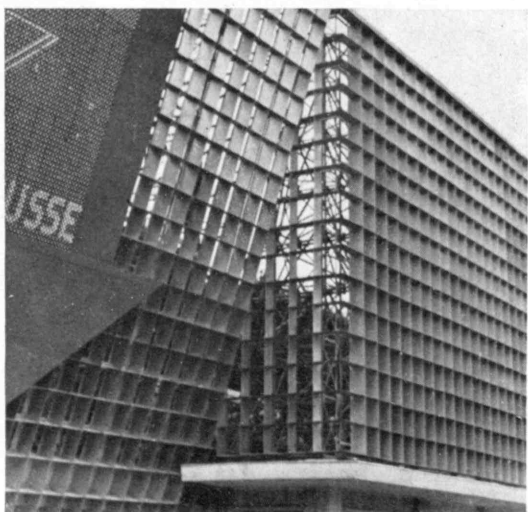
In addition to new parks, bridges, and roadways, the Exposition will leave to Paris a new museum of modern art and a new Trocadéro. The latter was designed by M. Jacques Carlu, formerly Professor of Architecture at Technology.

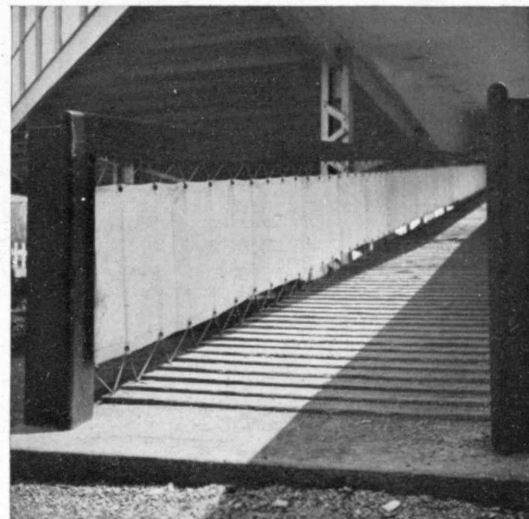
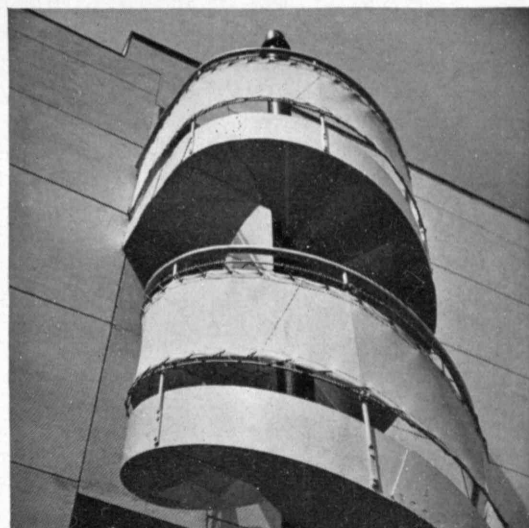
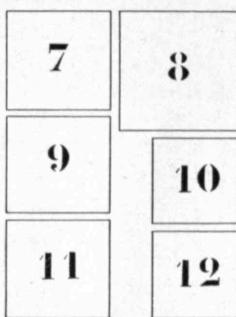
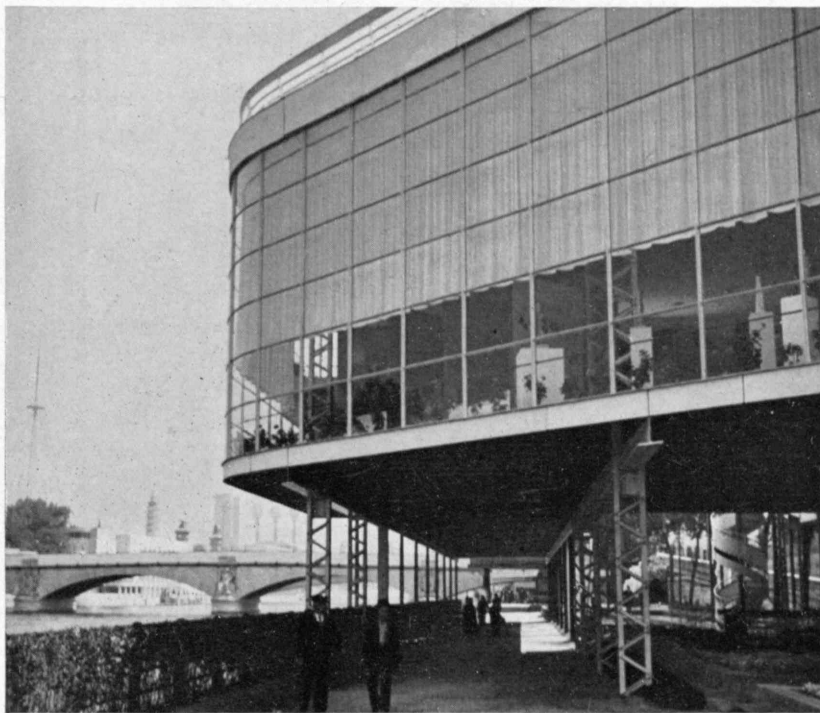
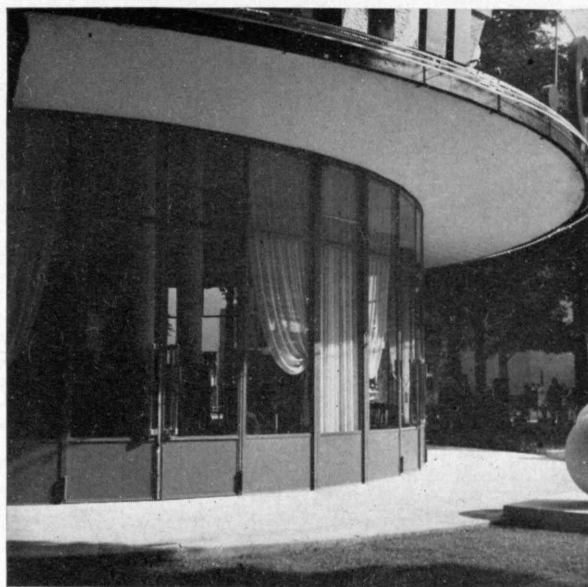
The Fair, as far as finished work is concerned, is a competitive showing of national pavilions, each exalting its national achievements in intellectual, industrial, social, and spiritual fields. Each nation presented to the assembled world a kind of summary of its power, its achievements, wealth, and even political attitude.

Paris Exposition 1937



1. Scaffolding and structural frame, Porte d'Orsay, during construction was admired for its lightness and elegance 2. Column at Porte d'Orsay, one of the 37 entrances to the Exposition 3. Propeller as sculptural form; Marine Transport Building at right 4. Cantilevered terrace of steel, concrete, and glass, Czechoslovakian Pavilion 5. Metal grill serves for display of large-scale advertisements; "electric newspaper," at left, has constantly changing news illustrations 6. Column of uncased riveted steel supports terrace of the Czechoslovakian Pavilion





7. Glass in every variety of architectural use was incorporated in the construction of the Glass Pavilion 8. Exhibition building for Union of Modern Artists, like most pavilions, was sheathed with glass 9. Circular kiosk for display and sale of a popular drink 10. Spiral stairway as exit from floor levels of building for Union of Modern Artists 11. Stair railing of expanded metal, hand-rail of hard rubber 12. Entrance ramp to exhibition building for Union of Modern Artists

Photograph of Mercury Fountain by Bonney; photographs 1 and 5 by Moholy-Nagy

Toward All-round Facilities for All-round Students

An Abstract of the Report of the M.I.T. Alumni Committee on Student Welfare Objectives Presented to the Alumni Council and Unanimously Approved Last Spring

THE opportunity and need for better provision for the extracurricular welfare of students were included in the objectives in President Compton's report to the Corporation on October 14, 1936; both a gymnasium and an extension to the Walker Memorial Building were there mentioned. Even though great benefit to the undergraduate body would be expected from each of these objectives, practical considerations made advisable a choice between them at the present time. This committee was appointed to investigate and report on their relative merit as contributing to the broad purposes of the Institute.

Much has been said about the excellent manner in which Technology student affairs are managed. Control is with the students themselves, and the governing body—the Institute Committee—has an enviable record. It has been known that competitive athletics at the M.I.T. have been notably free from commercialism and related difficulties, and that the percentage of undergraduates taking part in athletics was high for such an institution. Professor L. F. Hamilton, '14, and others have described the manner in which, first, the dormitory and, more recently, the commuting students from the Greater Boston area have increased their participation in extracurricular activities in a most healthy and encouraging manner. The impression gained from time to time from the numerous reports of excellent conditions has been such that the real need for improved and extended facilities has not been sufficiently apparent.

Walker Memorial, dedicated as a student building in 1917, was not even then adequate for its many combined purposes—dining room, auditorium, gymnasium, library, and office space. Shortly afterward, the deserted wartime airplane hangar was occupied as gymnasium space, but even as space alone, it has been quite inadequate. Since Walker was planned, there has been an increased enrollment of nearly 50% and a simultaneous increase in the percentage of the student body benefiting from such facilities, due in part to increased participation by dormitory and commuting students. There has been no corresponding increase in the facilities. The fine Homberg Infirmary has been added for the student in need of medical attention, and a badly needed field house has been built. A sailing pavilion and a fleet of dinghies have been provided through Professor

"But the Institute Sorely Lacks

... a decent building for a gymnasium," reported *Fortune Magazine* in an article on the Institute last year. "Walker Memorial, the student center built by the Alumni in 1917, was inadequate almost from the beginning."

"Our present gymnasium facilities," reported President Compton to the Corporation last fall, "are woefully inadequate. Not only do they not provide the facilities necessary for recreational enjoyment, but they present a most dismal picture of the Institute to the many visiting groups of athletes and sports enthusiasts. Among the many scores of colleges and universities, large and small, of my own acquaintance, I cannot recall any other which approaches this institution in the unattractiveness and inadequacy of its gymnasium."

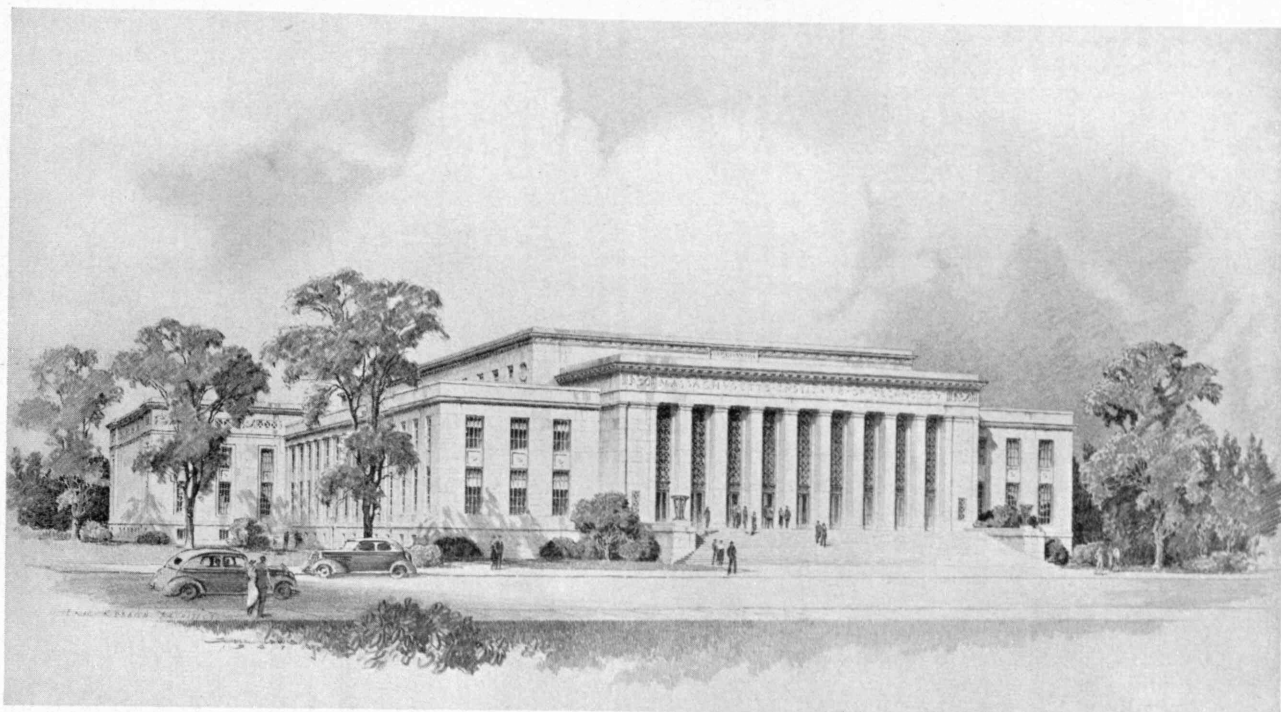
"We suggest," reports the Alumni Committee on Student Welfare Objectives, "that coöperation with the Institute in making a gymnasium possible is a major opportunity for the Alumni Association."

Schell's ('12) efforts and the generosity of some of the Alumni and friends. But there has been no major increase in capacity to parallel the heavy increase in demand. The present need is much greater than is indicated by present crowded use, as a number of activities will serve a larger number of students when space for expansion is made available. The Commuters' Club, Dramashop, and competitive and recreational swimming are examples.

Interpreting its assignment broadly as a report on the best means of meeting student welfare needs, the committee reviewed present undergraduate activities and the physical facilities now provided for them. The coöperation of students, Faculty, and actively interested Alumni was obtained. The heads of all recognized undergraduate activities, both athletic and non-athletic, the several Alumni Advisory Councils, and a number of specially informed or interested faculty members were asked to present views and pertinent facts bearing on activities with which they were concerned. When the formation and purpose of the committee became known, a number of individuals aware of special needs made specific suggestions that have also been of help. Members of your committee were themselves chosen because of familiarity with various aspects of the problem. There was no preponderance of one interest over another in the committee, and every effort was made to avoid reaching conclusions or decisions until the available facts and suggestions were before it.

Competitive Athletics

Technology's program includes representation in 15 intercollegiate sports for varsity teams, and, in most cases, for freshman teams. These sports are basketball, crew, cross-country, fencing, golf, gymnastics, hockey, lacrosse, tennis, wrestling, (Continued on page 42)



DESIGN FOR ENRICHING STUDENT LIFE

South view of the proposed Technology recreational center as it would be seen from the George Eastman Research Laboratories. This combined gymnasium, swimming pool, and auditorium will be located on the present athletic field, conveniently near the dormitories, the educational plant, and Walker Memorial. This building, supplemented by the indoor sports building and alterations in Walker Memorial, will provide amply for the recreational needs of all students

The Books are Open!

The Goal of \$1,650,000 for Student Recreational Facilities

By THOMAS C. DESMOND

"I am in complete sympathy with your efforts and will be glad in any way that I am able to further the campaign. . . ."

"I sincerely hope that this campaign will be successful and that within another year or two the new gymnasium will be built and in operation. . . ."

"Now as to the plan itself — it is excellent! The need is great, and every Alumnus who ever had the slightest interest in sports knows that M.I.T. does not have adequate facilities. . . ."

"You and I aren't so ancient but that we can remember how things are at the 'Stute and realize that there could be no finer or more satisfying contribution than one which gives the boys a better break — a richer, more satisfying college life and the equipment to enable them to hold up their heads in any company. . . ."

THESE comments are typical of the stimulating reactions received by the Alumni Committee as we correspond and talk with Technology men the country over. Such reactions give me added confidence in the statements I made in a letter to all Technology men last month.

"M.I.T. needs \$1,650,000 from its Alumni!" I wrote. "That's my whole story in a sentence, save for my added opinion that Technology Alumni — once they know the need — will see that Tech gets \$1,650,000."

The enthusiastic, instantaneous support that has already been demonstrated by Alumni and friends of the Institute confirms my conviction that this big push to provide all-round facilities for all-round men, to banish forever the bogey that "Tech is hell" is one that the entire Technology community recognizes as timely and worthy of support.

This issue of The Review goes to press just as the pledges begin to flow into the central office in Cambridge. Elbert G. Allen, '00, director of the campaign, awaits, with open books and arms, the deluge. Already we have one of the most far-flung organizations ever set up among Institute Alumni to help in raising the fund. Every Class has its committee, and so does every important geographical locality. Before we are through, there will be more than 1,000 Alumni actively participating through various committees in the raising of the \$1,650,000.

Excellent examples of the thorough organization

among members of the Alumni may be found in New York and Boston. The Technology Club of New York, under the leadership of Alfred T. Glassett, '20, started its campaign on October 21 with a smoker at which President Compton, Alumni President Marshall B. Dalton, '15, and I had the opportunity to discuss the objectives of the drive. Already Mr. Glassett and his colleagues had organized a large New York committee, made up largely of representatives of every Class, their plan being to solicit the Metropolitan area on a class basis. A similar plan has been devised by Lawrence Allen, '07, in Boston. Philadelphia is likewise full of enthusiasm, as I learned with Dr. Compton and Mr. Dalton at a meeting of the Technology Club there the evening following the smoker in New York.

I could box the compass in citing other examples of helpful club meetings and ingeniously managed local and class campaigns, but with some 70 Classes and over 100 localities actively at work, I obviously cannot cover them all. I do wish to mention, however, the excellent dinner given last month by Birney C. Batcheller, '86, at True Temper Inn, Wallingford, Vt., for all Vermont Alumni. It was an occasion which contributed not only to a better understanding of our objectives in this drive but to a friendliness and *esprit de corps* among the Alumni of the Green Mountains.

The Review presents, on page 28, an abstract of the report of the Alumni Committee on Student Welfare Objectives which resulted in the organization of this campaign to raise money for recreational facilities at the Institute. I urge you to read this report because of the background it supplies. I need only point out that our objectives in the drive fulfill almost all the needs laid down in this report. We are not, as you know, confining ourselves to a gymnasium, although that is the principal feature of our

plan. We desire in this one major effort to supply as completely as possible the extracurricular needs of Technology students, and we believe that these needs can be filled adequately when the specified amount of money is raised.

I wish again to emphasize what Mr. Dalton said in the prospectus: "The governing principle behind these plans is the promotion of healthful, personality-building activities of *every* student. The athletic plant, for example, is designed not to stimulate commercialized collegiate athletics but to provide for those sports offering a maximum of wholesome exercise to the largest number of the undergraduate community." Our athletic ideal for the Institute is more the English plan, and nothing in the proposed development violates the unique athletic credo which has prevailed for so many years at Technology.

It would please me greatly if Alumni and friends of the Institute who desire more information about the general objectives would write to me directly at my office in Newburgh, N. Y. (94 Broadway), or to Mr. Allen at Technology for more specific details. The proposed development for Technology is a bold and far-reaching one and one that many people will be interested in as a new move in higher education. President Compton has written at length on the educational aspects of our plan, and I am sure both he and I would be glad to discuss with any Alumnus or friend of the Institute any details in which he might be interested.

Finally, let me restate what I said in my letter to Alumni, that we want the new gymnasium and its facilities to be the gift of all Technology men as well as friends of the Institute. Our goal is a 100% Technology response and \$1,650,000 to help Tech build the man as well as the mind.



CAGE AND FIELD HOUSE

This building, supplementing the recreational center, will be located west of Massachusetts Avenue. It will contain an indoor track (ten laps to the mile) and space for those sports that must be played indoors in winter and that require a dirt floor (soccer, lacrosse, track, field events, tennis, and baseball, for example)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Fiscal 1936-1937

At the meeting of the Corporation, held on Wednesday, October 13, Horace Ford, Treasurer of the Institute, informally reported on the Institute's financial condition. "From an administration viewpoint," said he, "the year which ended on June 30 will be pleasantly remembered as one of greatly increased income over budget estimates. For the first time the Institute deliberately refrained from using its entire investment income for the year and set aside a substantial amount — \$85,000 — as an Income Equalization Reserve Fund. Before doing this, it was able to wipe out its operating deficit of \$16,000; charge off the full amount of the balance deferred on account of making over and refurbishing its Graduate House (\$20,000); take care of the unusually large amount necessary for bond premium amortization due to government bond purchases (\$77,000); and put away the further sum of \$15,000 against the expense of the care and handling of our securities during the coming year."

A summary of operations shows the following:

| INCOME | | Percent of Total | | |
|--------------------------|-------------|---------------------|-------------|-----------|
| From students | \$1,401,000 | 47 | increase of | \$115,000 |
| From investments * | 1,377,000 | 46 | increase of | 91,000 |
| Other sources | 203,100 | 7 | increase of | 61,000 |
| | \$2,981,100 | | | |
| EXPENSES | | Percent of Total | | |
| Academic | \$1,871,000 | 63 | increase of | 87,000 |
| Administration and plant | 635,000 | 22 | decrease of | 4,000 |
| Miscellaneous | 365,200 | 12 | increase of | 80,000 |
| | \$2,871,200 | | | |
| For income reserve | 85,000 | 3 | | |
| | \$2,956,200 | | | |

* Budget estimate, \$1,280,000

Of the \$1,401,000 received from students, the sum of \$1,270,000 was for tuition from students taking the regular courses (summer excluded). Of this latter amount, \$165,000, or 13%, was provided by undergraduate scholarship awards (\$78,000) and graduate awards (\$87,000); and \$105,000, or 8%, by loans from the Technology Loan Fund. This makes a total of 21% of tuition provided through these three sources by the Institute.

On the expense side, a large part of the miscellaneous expenses is made up of special appropriations for academic purposes; so that the actual percentage expended on this academic account is nearer 70% and compares favorably with operations of previous years.

Endowment Funds. The large increase in the total amount of endowment funds shown on the balance sheet (excluding the transfer from New York to the Institute of the Technology Loan Fund [total, \$960,000] and its income) was accounted for by capital gifts total-

ing \$644,000 and by nearly \$700,000 net profit on sales or maturities of investment items. This increased our Endowment Reserve Fund to more than a million dollars — roughly 3.7% of the funds protected by this reserve. Including funds of the Pension Association (which, while separately held, are handled on the recommendation of the Institute's Finance Committee), the funds of the Institute total \$35,668,000 (book value) and have a market value of \$38,616,000.

Investments. The total cash transactions for the year were over \$16,000,000, of which the investment turnover was \$11,650,000, or almost one-third of the entire investment account.

SUMMARY OF GENERAL INVESTMENTS

| | Book 1937 | Market 1937 | Per cent at Mar- ket 1937 | Income Amount |
|----------------------------------|--------------|----------------|---------------------------------|------------------|
| <i>Bonds</i> | | | | |
| U. S. government | \$ 7,045,000 | \$ 6,951,000 | 19.6 | \$ 129,000 |
| Canadian government | 811,000 | 867,000 | 2.4 | 45,000 |
| Public utility | 4,128,000 | 4,371,000 | 12.4 | 303,000 |
| Railroad | 3,880,000 | 3,808,000 | 10.7 | 220,000 |
| All other | 1,298,000 | 1,160,000 | 3.2 | 92,000 |
| | \$17,162,000 | \$17,157,000 | 48.3 | \$ 789,000 |
| <i>Preferred stocks</i> | | | | |
| All | \$ 1,886,000 | \$ 1,819,000 | 5.1 | \$ 143,000 |
| <i>Common stocks</i> | | | | |
| Industrial | \$ 8,182,000 | \$11,921,000 | 33.7 | \$ 545,000 |
| Public utility | 1,247,000 | 1,209,000 | 3.3 | 54,000 |
| Rails | 379,000 | 396,000 | 1.1 | 51,000 |
| Bank | 1,742,000 | 1,581,000 | 4.5 | 34,000 |
| Other | 682,000 | 624,000 | 1.8 | 30,000 |
| | \$12,232,000 | \$15,731,000 | 44.4 | \$ 714,000 |
| <i>Mortgages and Real estate</i> | | | | |
| | \$ 1,070,000 | \$ 799,000 | 2.2 | \$ 24,000 |
| <i>Total general investments</i> | | | | |
| | \$32,350,000 | \$35,506,000 | 100 | \$1,670,000 |
| <i>Funds separately invested</i> | | | | |
| | \$ 3,318,000 | \$ 3,110,000 | | \$ 104,000 |
| <i>Total of all investments</i> | | | | |
| | \$35,668,000 | \$38,616,000 | | \$1,774,000 |

Investment Income. Operating on a cash basis, with a substantial amount of preferred dividend arrearages (Shell Oil, Pere Marquette) and with extra and year-end dividends on common stock holdings, there was enough to allocate a full 5% to all funds participating in the general investments (last year, 4.6%; 1935, 4.73%). The yield on all of the Institute's investments on their own market value as of June 30 was 4.45% (3.94% last year).

Power Plant. To meet the impending large increases in the experimental electrical load due to the building of the new wind tunnel, the new magnetic laboratory, and other items, the Institute has entered into a contract with the Cambridge Electric Light Company to furnish power for all of its requirements, beginning about December 1 or thereafter — as soon as the necessary trans-

The School of Architecture's New Home

At the left is shown the vestibule and at the right, the Massachusetts Avenue façade of the addition, described below, now being built to the Institute's group of educational buildings.

The building was designed by Welles Bosworth, '89, who was the architect for the entire Technology group built in 1916. The supervising architect representing Mr. Bosworth is Harry J. Carlson, '92, and Stone ['88] and Webster ['88], who built the present plant, are the engineers.

The new home of the country's first school of architecture, from which many distinguished architects have been graduated, joins the north end of the Pratt School of Naval Architecture and Marine Engineering, and extends northward for 320 feet toward the Guggenheim Aeronautical Laboratory. A central wing of this T-shaped unit will extend back to the existing building, providing a much needed, convenient entrance to the whole educational group.



fer can be effected. The Institute will still continue to operate its power plant for heating purposes only, the electrical units being held as a stand-by as part of the contract with the Electric Company. This makes it possible for us to take care of the greatly added demands for power and heating for all contemplated buildings and facilities, without a large capital investment in addition to the power plant, and it is hoped that this will prove a happy solution to a problem which has been facing us for some time.

Dining Service. The Dining Service and Walker Memorial had what, in many ways, has proved to be their most successful year. With the large increase in patronage, it was possible to show a profit for the year of \$9,000, enabling the Service to buy up the deficit in its reserve fund, pay for some much needed new equipment, and still leave approximately \$4,000 in its reserve. A substantial share of this is due to the direction, coöperation, and interest of William E. Smith of Boston, 78 years old, a veteran of the hotel and restaurant business, who accepts the responsibility of directing the affairs of the Dining Service as an avocation and for whose services and interest we have, as yet, found no adequate means of making payment—Mr. Smith refusing to accept even an honorarium.

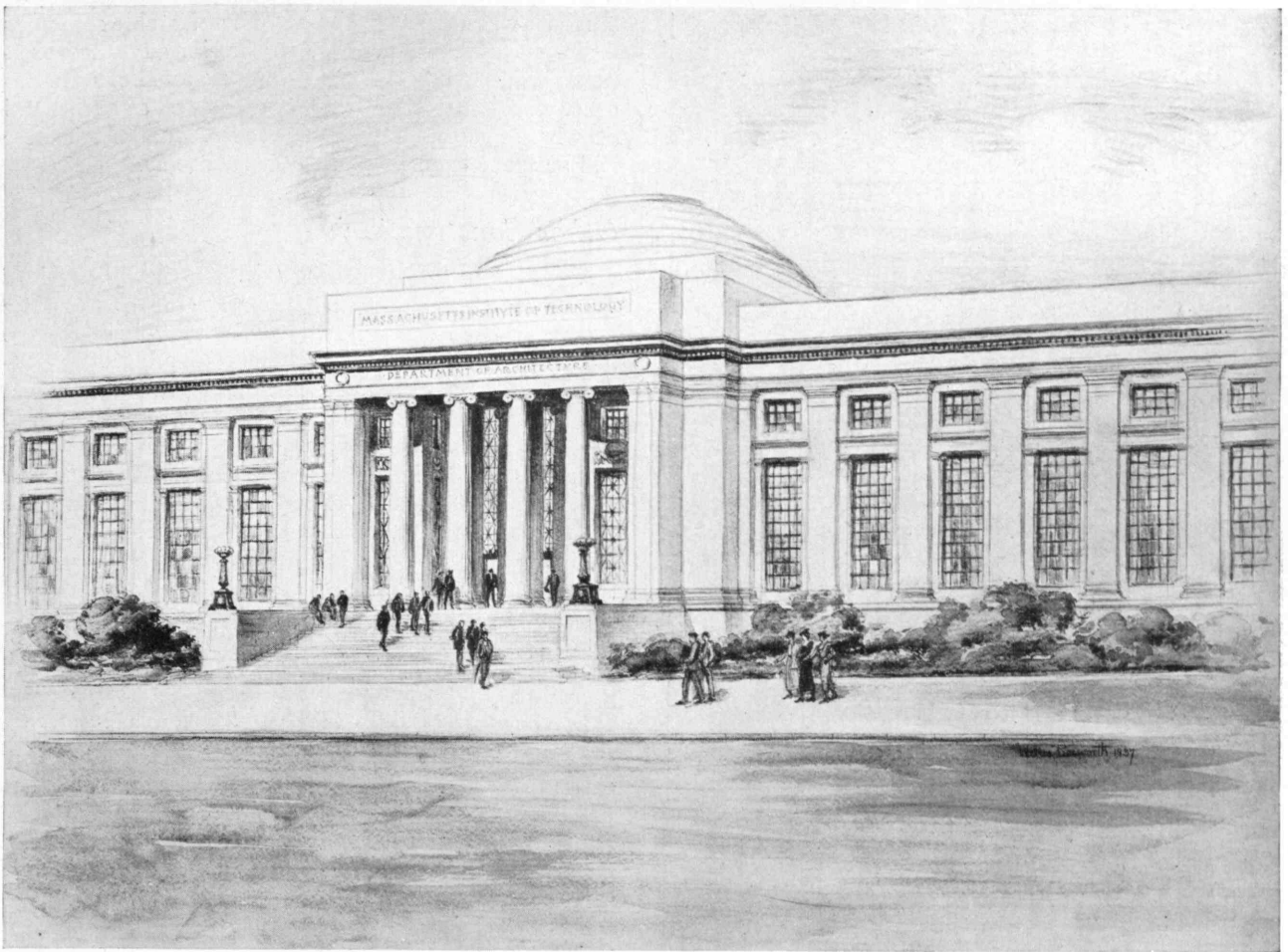
Dormitories. Our dormitories also enjoyed a successful year, with practically every room taken for the entire year and a waiting list at all times. The net profit of

\$21,000 from operations appears low, but this is after paying off the deferred charges on account of renovations amounting to \$20,000, previously referred to. Excluding this item, the dormitories earned a full 3% and should do better than that this year. The question of additional dormitories faces us squarely, as the applications of the men in the three upper classes, alone, in the undergraduate houses exceed the accommodations by 100 at this writing; the freshmen waiting list is 40 over the number of rooms available; and there are 100 men who would like to get into the Graduate House who are unable to. This, we think, is a complete answer to the question as to whether the Technology dormitories are a desirable place to live.

Design of New Building

SINCE announcement in May of the sale of Rogers and Walker Buildings, last bond with Tech on Boylston Street, the School of Architecture Building has been taking tangible form as a new unit of the present educational group in Cambridge. Its construction, now outlined in bold relief by massive concrete foundations, presages the welcome homecoming of the School to its rightful place under the far-spreading roof of the Institute.

The new building, which is made possible largely by the sale of the Boston property, will give the Institute an impressive entrance from Massachusetts Avenue, on



which it faces. Designed primarily for the School of Architecture, the unit will also provide much needed space to relieve congestion in the present building. Exclusive of its handsome vestibule and corridors, the structure will provide approximately 70,000 square feet of useful floor space, of which about one-half will be used by the School of Architecture, while the remainder will be assigned to various other departments.

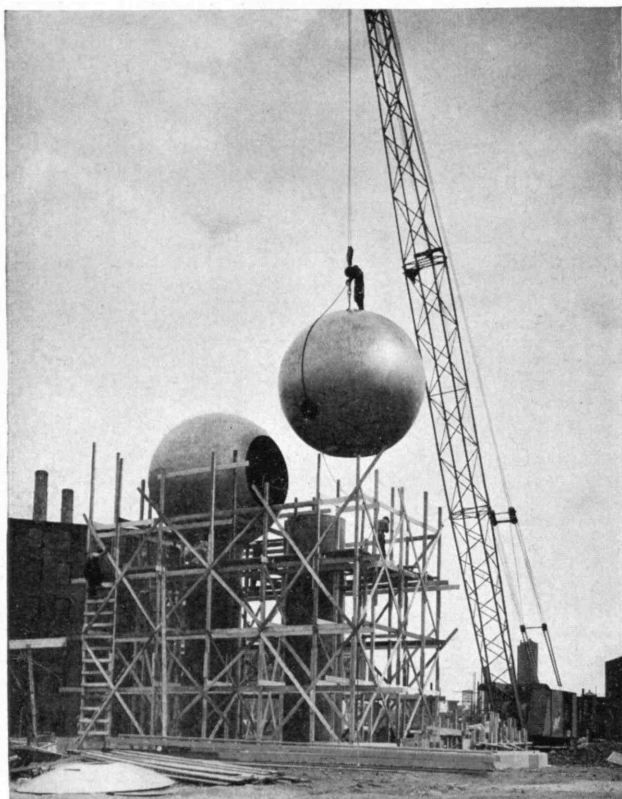
A schedule of changes within the present buildings has been worked out after a careful analysis of requirements, congested spots, and places where future expansion must be provided. These changes range all the way from the conversion of two large and relatively useless rooms into splendidly equipped, large lecture halls and the conversion of one unsatisfactory lecture hall into a well-equipped branch library serving five adjacent departments, down to transfer of professors' offices from one location to another. Eighty such space changes were made during the summer and 50 more are on the schedule for next summer, so that the entire program will be completed coincidentally with the occupation of the new building next September. These changes comprise a comprehensive plan for the Institute's future development and will add much to the convenience and effectiveness of its work.

The design of the new building fits into the plan conceived by Bosworth when he designed the present plant. The building will be faced with limestone and

will have a broad flight of steps leading to an appropriate colonnade, surmounted by a low dome which will be subordinate to the Institute's great central dome (see sketch above). The new entrance will be dignified by four great columns, five feet in diameter, set within pilasters and rising through three full stories of the building. Behind these will be four more columns at the threshold of a spacious vestibule (see page 32). The portico will have sufficient depth to provide both effective shelter from the elements and the desirable richness of shadow in the façade. Three-story, ornamental grilles over the doorways will contribute to the dignity of the effect.

The School of Architecture will add new interest to the skyline of Massachusetts Avenue, for the dome of the building will be seen at the end of a mile-long vista from Central Square, Cambridge, in one direction, and from the Boston end of the Harvard Bridge from the south. Except for a gap of 140 feet between the new unit and the Guggenheim Aeronautical Laboratory, the Institute's western façade of nearly 1,500 feet between Charles River Road and Vassar Street will be complete.

The basement of the new building will be occupied by heat and refrigeration laboratories of the Department of Mechanical Engineering, various classrooms, a shop for the Institute's science museum, and the mechanical and electrical equipment of the structure. On the first floor will be the office of the Dean of Architecture,



HIGH-VOLTAGE LABORATORY

The huge electrostatic generator which has been under test at Technology's field station at South Dartmouth has been moved to the Institute's grounds in Cambridge, where it is now being installed. Here one of the huge, 15-foot, aluminum terminal spheres is being lowered into place on the top of its insulating support. The base of the columns, which are 25 feet long, will extend below the level of the ground into a concrete laboratory, and the entire equipment will be housed in a dome-shaped, welded-steel housing. The tube, instead of being placed horizontally between the spheres, will be arranged vertically within one of the supports, the spheres being joined.

After completion of the new structure and final adjustment of the apparatus, which will take several months, the generator will be utilized in a program of high-voltage atomic research

faculty and department administrative offices, an exhibition hall, class and drafting rooms, offices of the Registrar's staff and the Lowell Institute School, and an information office.

Nearly half of the second floor will be given over to a library, which will house one of the most valuable collections of books on architecture in the country. On this floor there will be also the office and drafting room of the Course in Building Construction, the quarters of the staff of the Division of City Planning, faculty offices, and the headquarters of the Alumni Association.

In the north wing of the building, on the third floor, will be the architectural design rooms for first-, second-, and third-year students, while the south wing, with the exception of a classroom, will be given over to a museum hall. In the east wing will be an administrative office and several laboratories for special research in electrical engineering.

The fourth floor in the north wing will contain a large exhibition hall and a room for senior and graduate architectural design. In the east wing of the building,

students will have a spacious and comfortable commons room, opposite which there will be an advanced city-planning design room. The south wing will contain another city-planning drafting room, as well as a freehand drawing room and a modeling studio. In addition there will be space for a shop and storage rooms.

Other Construction

IN addition to construction of the new School of Architecture and the moving of the electrostatic generator from Round Hill to the new high-voltage laboratory on the Institute grounds (see adjacent photograph), various other activities make this the busiest season for many years. The contract for construction of the new high-velocity wind tunnel, plans for which were announced in *The Review* last April, has been awarded, and work is expected to start during the winter. Designed to develop wind velocities up to 400 miles an hour and to simulate changes in barometric pressure at any altitude up to 35,000 feet, the Wright Brothers Memorial Wind Tunnel is expected to be ready for dedication at the International Congress on Applied Mechanics which will be held in Cambridge next September.

Meanwhile, the substation building which will house the 1,700-kilowatt motor-generator equipment to supply current for the powerful magnet developed by Dr. Francis Bitter of the Department of Metallurgy is under construction in the court behind the Eastman Research Laboratory. The magnet produces magnetic fields far more powerful than any heretofore available and will be used for important researches in physical chemistry, spectroscopy, and metallurgy (see *The Review* for January, 1937).

Corporation Losses

IN his annual report to the Corporation last month President Compton paid tribute to the five life members of the Corporation who have died this year: "Here alone in my report," said he, "must enter sadness and regret, for we have suffered the loss of colleagues of such distinction, who have served the Institute so loyally, and whose personal qualities have so won our affection that, though they be succeeded, they can never be replaced."

"Charles Hayden, '90, member of the Corporation since 1913, died on January 8; Elihu Thomson, member since 1898 and acting president, 1920 to 1923, died on March 13; Frank A. Vanderlip, member since 1916, died on June 29; Francis W. Fabyan, '93, member since 1920, died on September 4; and Charles Neave, '90, member since 1933, died on September 10. Mr. Hayden had served as president of the M.I.T. Alumni Association and as chairman of the Technology Loan Fund Committee; Professor Thomson served many years on the Executive Committee and as a lecturer in the Department of Electrical Engineering; Mr. Vanderlip, at the time of his death, was actively assisting in the procurement of funds for the new wind tunnel; Mr. Fabyan had been especially helpful to the Department of Business and Engineering (*Concluded on page 36*)

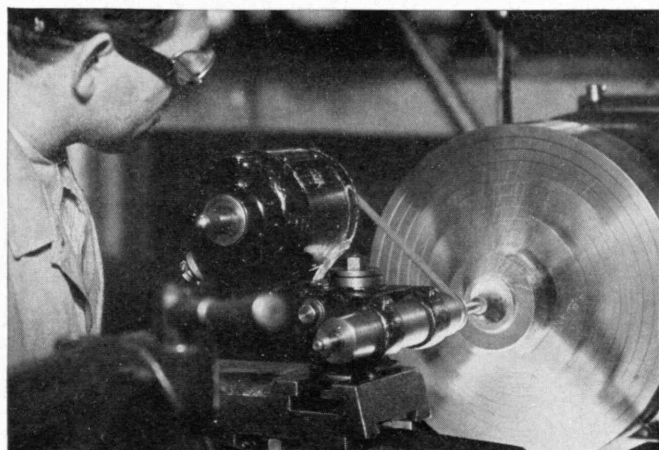


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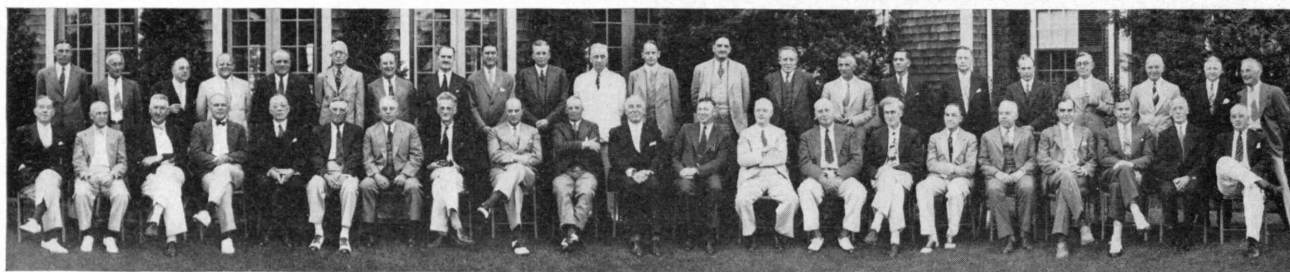
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NORTON ABRASIVES



1907

Their Secretary identifies his classmates at their 30th reunion as follows: Rear row, left to right: Bryant Nichols, Oscar Starkweather, Harry Moody, Roy Lindsay, Lawrie Allen, Harold Farrington, Phil Walker, Carl Bragdon, Alexander Macomber, Hud Hastings, Stud Leavell, Ed Moreland, Ralph Hudson, Ed Squire, Kenneth Chipman, Bob Albro, Allan Cullimore, Howard McChesney, Bert Bancroft, Bob Rand, Clinton Barker, Starkweather (again!); front row, left to right: John Frank, John McMillin, Chet Vose, Charlie Allen, Harry Burhans, Bill Woodward, O. L. Peabody, Gilbert Small, Sam Marx, Ed Prouty, Henry Martin, Ed Lee, George Crane, Dick Woodbridge, Milton MacGregor, Don Robbins, Leverett Cutten, Harold Wonson, Phelps Swett, Jim Garratt, Kelly Richards

Administration and in establishing the Research Associates' program; Mr. Neave, in his short service on the Corporation, aided in the establishment of the Institute's present policy of handling patentable inventions by staff members."

It was only last April that Mr. Fabyan presented to the Institute, as recorded in the May issue of *The Review*, a letter of George Washington's relating to the building of the Cape Cod Canal. Mr. Fabyan was elected a term member of the Corporation in 1920 and a life member in 1925. He served on no less than ten Corporation committees. He was chairman of the committee on President Stratton's inauguration in 1923. He was a Research Associate from the inception of that group, and he was President of his Class when that Class presented to the Institute the Class of 1893 Dormitory. To commemorate his interest in the Department of Business and Engineering Administration there is a room in the Graduate House named for him. This room is for the special use of the industrially sponsored graduate students in that department, a group in which Mr. Fabyan was greatly interested and for which he contributed funds for fellowships.

Mr. Neave, one of America's most distinguished patent attorneys, was elected a life member of the Corporation in 1933. He served on Corporation committees on the Department of Electrical Engineering and the Division of Industrial Coöperation, and he was a member of the Research Associates group.

Mr. Vanderlip's activities on the Corporation, in addition to that mentioned by Dr. Compton, included membership on its Auditing Committee and on three departmental visiting committees, that of Physics especially commanding his interest. Beyond these official activities, his frequent entertainment in New York of our graduate students from the Department of Business and Engineering Administration warrants grateful remembrance.

Corporation Elections

THE Corporation, at its meeting on October 13, elected Henry E. Worcester, '97, Vice-President of the United Fruit Company, to life membership. At the same time Philip

Stockton, '99, President of the First National Bank of Boston, was elected a member of the Executive Committee, to which Mr. Worcester was also elected, having served pro tempore since 1934.

Mr. Worcester served as an alumni term member of the Corporation from 1931 to 1936. Mr. Stockton was elected a life member last year and has served as chairman of its finance committee, a position to which he was again elected last month.

Food Technology

PROGRESS in manufacture, preservation, and distribution in nearly every important phase of the food industry was reported in papers presented by 40 authorities at an international Food Technology Conference (see page 17) held at the Institute from September 14 to 17. Sponsored by the Department of Biology and Public Health and ably led by Dean Samuel C. Prescott, '94, the conference drew more than 500 food technologists and manufacturers, including speakers from Canada, England, France, and Germany.

Stressing developments in the basic sciences, such as biology, physics, chemistry, economics, and engineering in their relation to advances in food technology, the speakers discussed problems of today and forecast trends in methods of processing, the manufacture of food containers, and the problems of storage and distribution.



1922'S 15TH: ONLY PART OF A JOYOUS GROUP AT PINE ORCHARD

This and the picture above are two of several that were submitted. The Review wishes it had room to let you see the many other smiling faces

"Gerwhock, gerwhock, sppss!"

... and out came a gallon can

Recently a newspaper columnist* picturesquely described a drawing operation as follows: "A man slides a sheet of metal into a machine; a big plunger comes down; the machine goes 'gerwhock, gerwhock, sppss!' the plunger goes back up, and there you have a gallon can." Perfectly simple...if the machine, the dies and the metal are okay. Especially the metal. In this type of work, many apparently small differences in material or practice may seriously affect costs. Here is an instance:

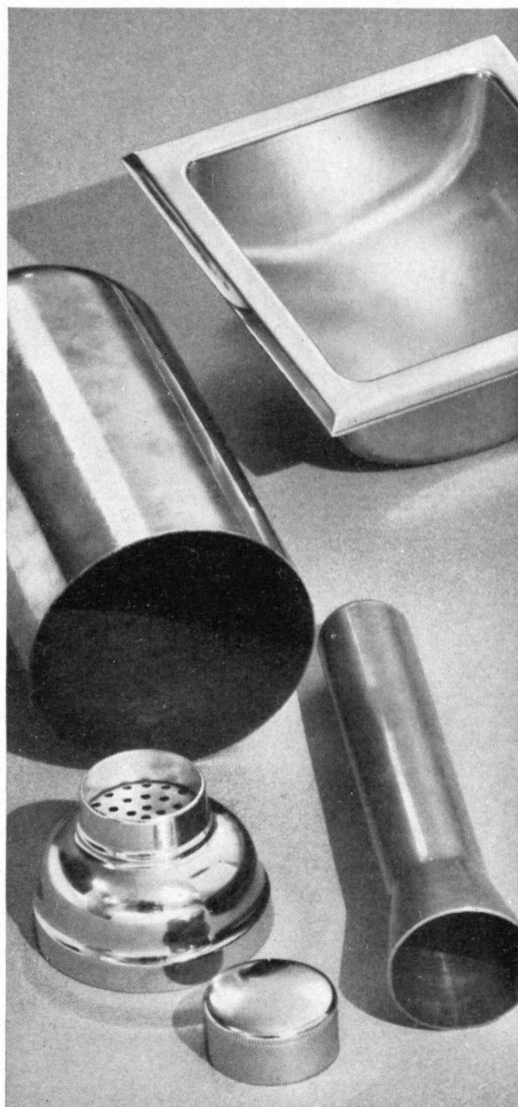
Revere Technical Advisory Service

Saves Manufacturer \$6800 per 100,000 Units

Revere Technical Advisory Service was called in to help a certain manufacturer who was having trouble in drawing sheet brass. Investigating, the Revere Technical Adviser also found that trouble was being experienced in a "fold-up" operation. As an initial step he had the Revere research laboratories analyze and test samples of the metals used. After studying the analysis and test reports, he suggested several other brass mixtures for trial, recommending that the manufacturer standardize on the metal found best for uniformly good results. Observing, too, that the manufacturer was buying sheet brass in random lengths, the Revere Technical Adviser showed that a change in dies to permit a reduction in width would allow a substantial saving in scrap and enable the manufacturer to purchase the metal in conveniently handled coils. These changes resulted in savings ranging up to \$6800 per hundred thousand units of production.

This service cost the manufacturer nothing, but saved him many thousands of dollars annually. You, too, if you have a problem involving possible use of copper or its alloys, may have the service of a Revere Technical Adviser without charge and with no obligation. Please address our Executive Offices, 230 Park Avenue, New York City.

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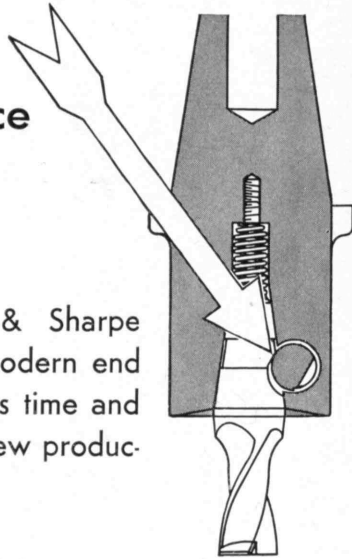
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THE TREND OF AFFAIRS

(Concluded from page 16)

may control the illumination of a lamp consuming several amperes. This is an easy accomplishment for vacuum tubes; electronic amplifiers, for example, increase the power of transcontinental telephone conversations ten trillion times in 16 successive steps. The magnetic amplifier cannot deal with such problems, nor is it suited to the purposes of electrical communication. But for industrial purposes, where reliability and permanence are important, it has a wide field of application.

On the other side of the ledger, in the interest of electronic devices, are the two outdoor signboards near Times Square, New York City, which within recent months have proved so interesting to spectators that theater managers have complained of loss of patronage. The larger of the two (since removed in accordance with a seven weeks' contract) contained 4,104 lamps, measured 30 feet by 20 feet, and was used exclusively for purveying rudimentary animated cartoons. The smaller sign, still in operation, boasts only 1,000 lamps. Behind the scenes (in the case of the larger sign) was a rectangular assemblage of 1,026 phototubes, each individually sensitive to the light projected on it from a motion picture projector. The pictures on the film, specially drawn for the purpose, were composed of squares, one square projected accurately, in "register," on each phototube. Each phototube in turn actuated a relay tube, and each relay tube fed current to a group of four six-watt lamps on the signboard. The picture was thereby transformed from light in the projector to electricity and back to light again in the signboard with a huge increase in size and light power. Unlike modern television (see *The Review*, June, p. 325), in which the elements of the picture are sent in sequence, the signboard device sends them all simultaneously. In so doing it apes the human eye, which has a separate communication channel (nerve fiber) for every sensitive point in the retina. The simultaneous transmission of image-elements by electricity requires a prodigal attitude on the part of the engineer, as the 1,026 phototubes testify. Phototubes have recently been reduced in price, so that similar large-scale applications are feasible economically. One device now in development is an automatic tabulating machine which contains a rectangular bank of 200 phototubes on which are projected photographic dots from frames of motion picture film, each frame corresponding to the punch-card record of the conventional tabulator. The phototubes control counting relays which take tabulated totals as the film proceeds through the projector. Advantages are compactness (eighty-four million records in 100 cubic feet of film storage space) and protection against loss or misfiling of individual records.

THE HANDBOOK OF COLORIMETRY

Prepared by the STAFF OF THE COLOR MEASUREMENT LABORATORY, Massachusetts Institute of Technology, Under the Direction of ARTHUR C. HARDY.

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THE TECHNOLOGY PRESS

Massachusetts Institute of Technology

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This Man Created *MARKETS*

WOULD the electrician have his job? Would you and I have electricity as a utility? Would we have radios or motion pictures? Or could we enjoy life as we do had not Edison labored as he did? Tirelessly, he sought answers to riddles. With the answers known to him, he applied what he had learned to indefatigable research so that we might enjoy the safety and the comfort of the many utilities made possible by the harnessing of that great force of Nature, Electricity.

Yes, the electrician might have his job today because some other man or some other men might have done just what Edison did—but the point remains that Edison did these things when he did them and made them practical and available within a few short years after he had uncovered the secrets.

Sixty years ago, his phonograph made possible the recording and the reproduction of the sound of the human voice. A decade afterward, because Edison wanted to give action in pictures to the sounds he could record and reproduce with his phonograph, he made his motion picture camera and projector and subsequently invented the talking motion picture.

Yes, the motion picture industry might exist had not Edison done these things, but his contribution

to this art is recognized and honored by that great industry itself.

Other men might have done what Edison did, but the point remains that Edison did these things when he did them and he made them available for mankind to enjoy.

Waxed paper and gummed paper tape—perhaps you do not know that Thomas A. Edison was the first to make these. Humble utilities they may be, but nevertheless they play an important part in our every day life and it was Edison who brought them into use for our benefit. Over 1100 different patents were awarded him during his lifetime.

By doing all of the things he did, Thomas A. Edison created many great markets. He established the need for mass employment. He made our world a safer, a better and a more pleasant place in which to live.

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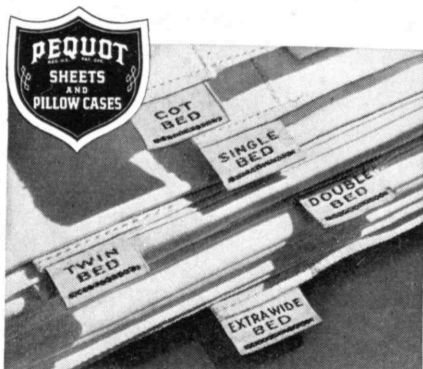
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RICHARD COCKBURN MACLAURIN

(Concluded from page 24)

It would be inappropriate to say that President Maclaurin was a man of mystery, but I am inclined to believe that few even of his associates knew very much about his personal life. Unlike some men, his reserve was not forbidding; it did inspire friendly curiosity. No longer need that curiosity go unsatisfied. In earlier life when in Cambridge as a young man, Lord Rutherford, also a young student, noted that while Mr. Maclaurin was "thoroughly human and keenly interested in the work and outlook of his friends, I was from the first impressed by his unusual reticence — I might almost say secrecy — about his own doings and prospects. He gave every man his ear but few his voice."

This quality of reserve stood him in good stead when Mr. Eastman entrusted to him the secret of "Mr. Smith." The main outlines of this eight-year secret are familiar to Technology men, but Professor Pearson has retold the story in a most attractive way and has added incidents and letters which I believe must be new to our Alumni.

A chapter is devoted to the long and tangled snarl of negotiations with Harvard; this is now ancient history. Even those who were not in entire accord with the movement will be impressed by the steadfastness of Maclaurin in insisting upon the continued independence of Technology.

Another chapter deals with the search for a new home for Technology, and here again we have Maclaurin's keen perception; from the beginning, apparently, the present site was his choice. The chapter entitled, "The Last Drive" (for a four-million dollar endowment), is the narration of the final tragedy, and this will reawaken the emotions of all Technology men. Almost coincident with the fulfillment of this effort, to which President Maclaurin had devoted so much of his strength, came the end of his useful life.

Maclaurin had a faithful band of coadjutors, and to these Professor Pearson repeatedly gives honor for their assistance. There is no fulsome adulation, but sympathetic interpretation of the hero of the narrative. The recounting of his life is all that is needed to keep alive a lasting memorial.

TOMORROW'S TELEPHONES

(Continued from page 23)

do not want this feature enough to pay for it, but when we do, it will be ready. Telephone physicists are now improving for a similar purpose the telegraphone, devised years ago but never widely used. It appears that message-recording telephones may soon be in considerable demand, at least in newspaper offices. We can imagine the telephone ringing, the receiver rising from its hook, and a steel tape starting to unreel, recording in magnetic form what is being said. This recording the tape does by rearranging its magnetic iron atoms in such a way that the record of the wavy line that is being fed (Concluded on page 42)

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TOMORROW'S TELEPHONES

(Concluded from page 40)

to it is preserved. The tape is thus the equivalent of a phonograph record which will reproduce the original voice whenever this is desired. The steel recording tape has this advantage over a record: It will erase itself as fast as it gives up its vocal load and is then ready to be used again ten thousand times or more, without showing signs of wear. Moreover, since the tape can speak as well as listen, it would be possible to have it say, when the telephone rings, "Mrs. Jones is out, but will you leave a message?" As soon as it has recorded what the caller says, the steel tape curls up in its compartment with the message safely preserved in its internal magnetization, and goes to sleep until the bell rings again.

The developments and discoveries which have come from telephone laboratories show what can be expected of an intelligently planned, long-period campaign of research, and how powerful is the combination of fundamental science, applied science, engineering, and technical arts when their efforts are thrown in a common direction. The coöperation among telephone research workers may be compared to that among the members of a good football team. Though Bell made the touchdown we are considering and actually reproduced the voice, it was as the result of a multiple forward pass — Volta to Faraday to Morse to Bell. The game these players started is still going on. Every time the referee blows his whistle, the cost of projecting the human voice goes down.

TOWARD ALL-ROUND FACILITIES

(Continued from page 28)

track, swimming, rifle, soccer, and squash. Over a period of years the total number of men participating in this program has varied from 700 to 900, or approximately 40% to 50% of total undergraduate registration. These figures include the total number of men who report for various sports before the squads are cut due to inadequate athletic facilities.

Due to the Institute's schedule of classes from nine to five, present facilities are overcrowded during the practice periods, which for most students are from 4:30 to 5:00 or 6:00 P.M. The limited facilities for a few sports are outlined below.

A. BASKETBALL. There are two basketball courts: one in the Walker Memorial gym; the other in the Hangar gym. The Walker court is never used for basketball practice, as this space is required for gymnastics and fencing. As a result, the varsity and freshmen practice through the use of a stagger system on the one available court in the Hangar gym. This year, 52 freshmen reported for basketball and 35 men for the varsity. The freshman squad was then cut to from 15 to 20 men, which is the maximum number that can be handled together with the varsity on one court.

B. TRACK. The sport of track should be considered in two parts: outdoor and indoor track. Indoor track practice is handicapped, especially. *(Continued on page 44)*

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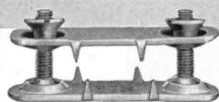
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TOWARD ALL-ROUND FACILITIES

(Continued from page 42)

in field events. Winter practice in the high jump, pole vault, shot-put, and broad jump is carried on in another section of the Hangar gym. Men participating in these events use pits which are inadequate, due to the limited space available.

C. **SWIMMING.** Technology has no facilities for swimming. For a number of years the M.I.T. Athletic Association has contracted with the University Club for the use of half its pool three times a week, from 4:30 to 6:00 P.M. There are approximately 90 men who report as candidates for the freshman and varsity swimming teams. The freshman and varsity squads are either cut by the coach to allow more swimming time per man, or the men drop out of the competition of their own accord, due to the inaccessibility of the University Club during the rush hours of four-thirty to six and the limited facilities offered to them. The arrangement with the University Club does not include provision for recreational swimming, and no facilities are offered to students during the summer months. Under these conditions, swimming cannot be developed either as a sport or as a recreation.

D. **SQUASH.** At present, there are eight squash courts, which are not sufficient to handle the present demand for participation in this sport—a sport which is increasing in popularity.

Recreational Athletics

Whereas the information before your committee on the influence and opportunities in the field of recreational athletics is not detailed or extensive, verbal reports received indicate that the need here is in some respects as serious as almost any other. . . .

Nonathletic Activities

A. **DRAMASHOP.** This activity is now carried on in the Rogers Building on Boylston Street, Boston, under very unsatisfactory conditions. The audience is limited to about 100, and high admission fees must be charged to cover expenses, limiting the success of the activity in many ways. "The cramped space in which we now work is an obstacle in maintaining a strong organization."

B. **DEBATING TEAMS.** Only a small auditorium and stage are necessary, but satisfactory facilities are not now available.

C. **MUSICAL CLUBS.** A room in one of the educational buildings is used for practice. It would seem obvious that a stage and a moderate-sized auditorium would encourage and strengthen this activity, although no plea for its need has been presented at this time.

D. **TECH UNION.** This is a forum organization and it is understood that its discussions have been on a high level. It is not a mechanism for propaganda of any type, as is true of somewhat similar organizations in some universities. It has been reasonably successful in spite of the fact that it has no proper auditorium available.

(Continued on page 46)

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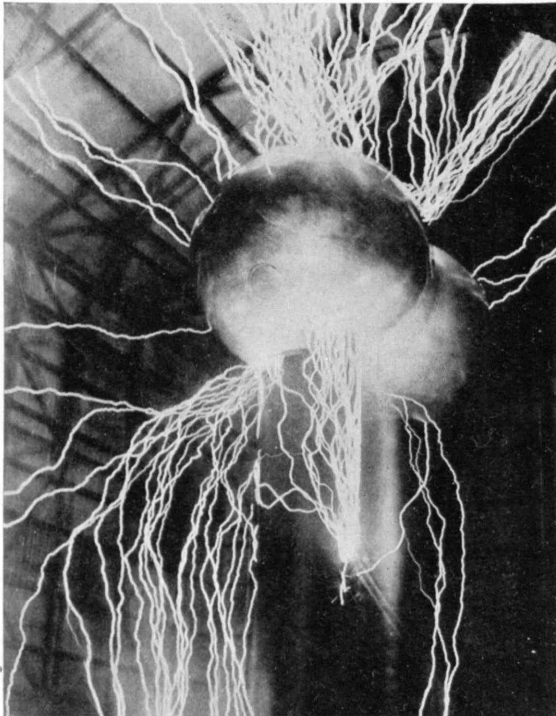
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TOWARD ALL-ROUND FACILITIES

(Continued from page 44)

Dining Rooms

Any enlargement or revision of Walker Memorial would necessarily take into consideration possible improvements in student dining facilities, but apparently they are not now so much in need of attention as many of the other subjects covered.

Lounges

The present student lounges in Walker Memorial accommodate less than three per cent of the enrollment. Further, this very limited space is seldom available. It is used for committee and other group meetings for which there is no adequate provision. . . .

Library

More apparent is the need for better housing for the Cilley Fund Library. This library must be kept in Walker Memorial, and the fund is of such size as to make the library an important asset to the student body. Assignment of proper space to it would also accomplish a part of the need for lounging or recreational area. . . .

5:15 Club

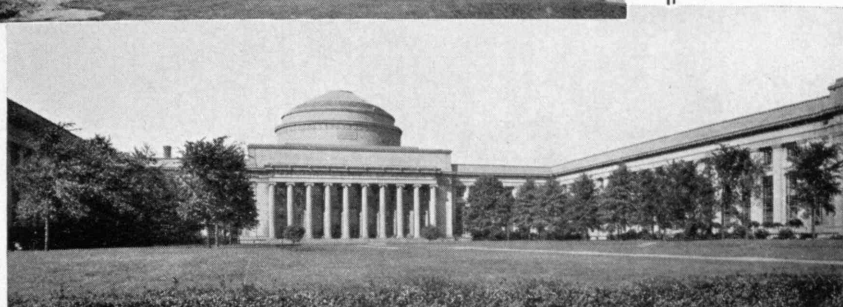
The Commuters' Club has been very successful. The extent to which the room has been used and the manner in which it has drawn men from the locker rooms where formerly they ate luncheons and spent odd periods in most unstimulating surroundings would lead to the thought that facilities of this type could profitably be extended. There is even now need for at least double the present space. . . .

Facilities Proposed

With the facts, suggestions, and requests before it, the committee considered whether a gymnasium, an extension of Walker Memorial, or any apparent and reasonable alternative or compromise would best meet the needs. As to the question before it in its barest form, there was little doubt. A gymnasium would provide for athletic activities now housed in Walker Memorial. By relieving the serious overcrowding there, practically all student activities would benefit. The converse is not true; an extension of Walker Memorial would leave athletic and many recreational activities in their present unfortunate positions. The need for a gymnasium is great, and its provision will meet a far wider opportunity for benefiting students at the Institute than even those reasonably informed of conditions were aware when this investigation began. This fact early became apparent, and subsequent investigation served only to emphasize the extent of the benefit a gymnasium would bring to the whole body of students.

Alternative Proposals

. . . Sponsors for one of the more articulate of the stage-using activities came forward with a suggestion that an auditorium could be constructed for a cost surprisingly modest. Costs on a somewhat similar structure were cited. A careful investigation of *(Continued on page 48)*



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TOWARD ALL-ROUND FACILITIES

(Concluded from page 48)

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Recommendations

It is the athletic unit, as shown in the report thus abstracted, which your present committee has in mind in reporting unanimously that a gymnasium is much more immediately necessary than the alternatives suggested. The need for the gymnasium and its collateral benefits is great. In recommending that a gymnasium be the first project undertaken, the committee ventures the hope that the improvements and additions to Walker Memorial will not long be deferred after the gymnasium is built. The need here is also great.

Your committee suggests that coöperation with the Institute in making a gymnasium possible is a major opportunity for the Alumni Association and recommends that the officers of the Association confer with Dr. Compton as to the manner and extent in which such coöperation might best be offered.

Respectfully submitted,

LAWRENCE ALLEN, '07, EDMUND G. BLAKE, '31,
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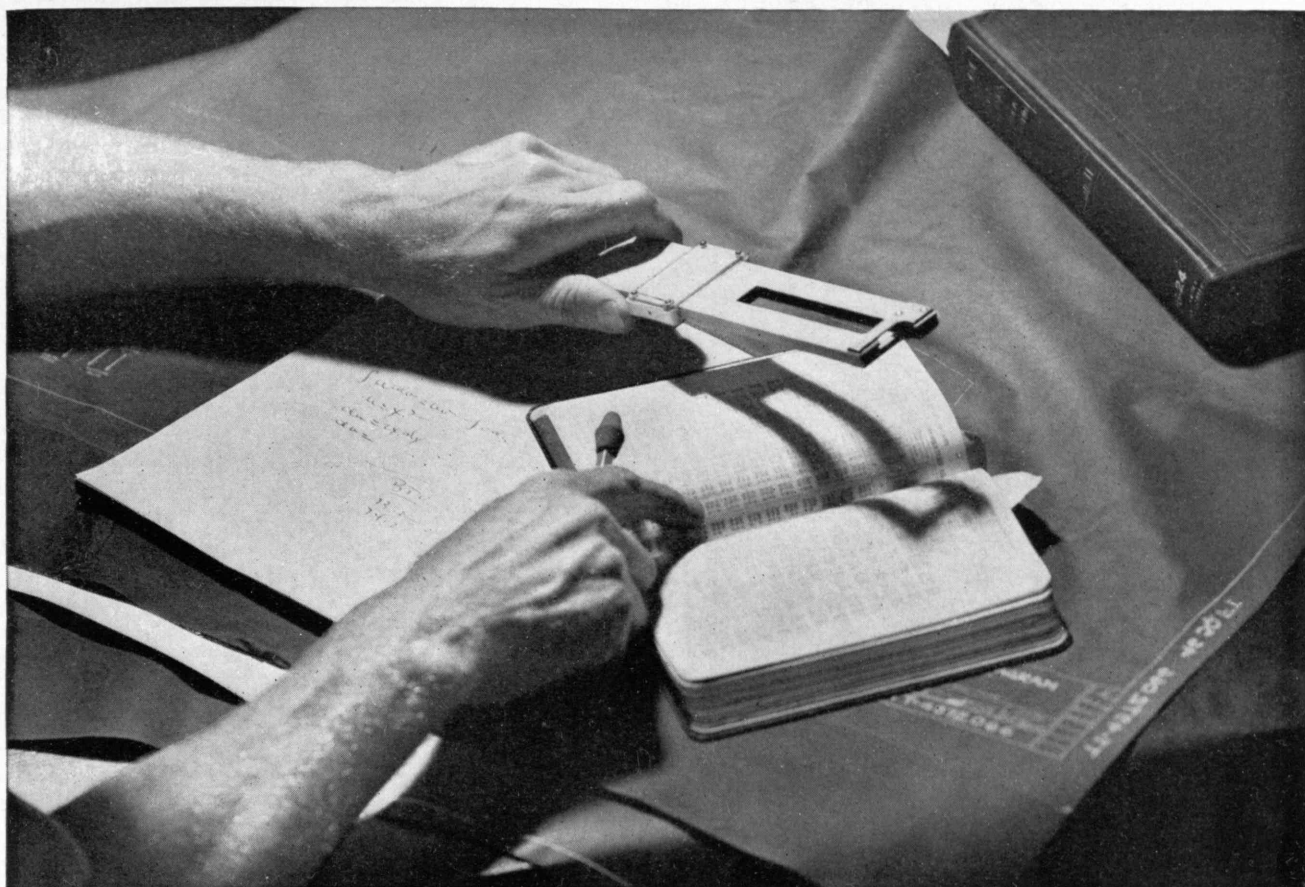
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(Continued from page 18)

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Henry A. Buff, 1905

sequent small increase in the size of the air cell due to evaporation.

Ozone is one of the agents sometimes employed for destroying and inhibiting bacteria and mold in cold-storage plants. With its help, eggs carried for eight months have been indistinguishable, by various tasting tests, from eggs a few days old, and meat stored at 36 degrees F. and 92% relative humidity for seven or eight weeks has no mold or slime. Although not widely used in America, there is reason to believe that in the near future better equipment for using ozone will be developed and that research will follow.

Important as the aforementioned sources of food are, it is no wonder that, with twenty-six million dairy cows in the United States producing over one hundred billion pounds of milk annually and thereby accounting for somewhat more than a quarter of the national farm income, the dairy industry is a matter of major concern to the food technologist. Since the average person eats more than a ton of food per year, of which dairy products constitute about 45%, almost everyone is vitally interested in what the food technologist is doing along one or more of its six main branches: processing and distribution of fluid milk and cream, manufacture of evaporated milk, butter, cheese, ice cream, and dry milk.

Recent research has shown that the milk production of a cow may be increased from 10% to 350% by injecting an extract from the pituitary gland; new tests facilitate the detection of milk of poor quality within one

hour, whereas older methods required 48 hours; the sales of evaporated milk have been trebled since 1920, although the outstanding problem still is that of finding a process which will result in a milk wholly natural in color and flavor; major improvements are to be noted in insulated tank trucks and cars, and in the use of stainless steel in the equipment for handling milk in the plants; and the final evolution of a satisfactory fiber milk container—shaped of paper, made only from virgin chemical or mechanical pulp, and paraffin treated. These are indicative of what is being done, and of a list which could be expanded indefinitely.

The background of the best bib and tucker which the well-dressed American cheese—really a modification of the English Cheddar—now wears when on dress parade in the grocer's showcase constitutes, by itself, a worth-while lesson. Long handicapped by the inconvenient and unattractive form in which the cheese was marketed, the packer adopted the scheme of putting it up in smaller packages with the surface protected to prevent molding and excessive rind formation. Commercially this involved heating and reshaping the cheese, a process which, although it made a satisfactory package, destroyed its characteristic delicate flavor. In addition to molding, another difficulty is that, in its process of normal ripening, the cheese gives off considerable quantities of gas. Thus, whereas packing it in an ordinary sealed can would overcome its readiness to mold, the gas would sooner or (Concluded on page 54)

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(Concluded from page 53)

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later accumulate sufficient pressure to swell and burst the can. Now all has become serene by means of a can with one-way valve, permitting the escape of the gas but preventing the ingress of air!

The cheese people have been gladdened also by the prospect of new outlets for one of their by-products, whey, much of which has gone to waste unless used as stock food. Whey, which contains most of the minerals, lactose, and soluble protein of milk, has a high nutritive value. Because of the low solubility of the milk sugar and the strong taste of the minerals, difficulties are encountered when whey solids are incorporated in food for man, but some progress is to be noted recently in adapting whey to improve the flavor and nutritive value of canned or homemade soups and for mixing with tomato juice, while its whipping properties are fine for certain desserts and candies.

In his manifold quest for new sources and processes, the food technologist is having yeoman assistance from colleagues in many fields. Mention has already been made of the fiber milk container and a forthcoming issue of The Review will detail the remarkable progress of the tin can. Modern glass containers, too, have had their surprising transformations of which the Stubby and Steinis beer bottles, saving in weight 26% to 29% over their original shape, are well known. These and other changes of shapes have been brought about without jeopardizing the physical strength of the glass containers, as is illustrated by a recent test in which a five-ounce thin-blown tumbler, made of modern glass, withstood without fracture a 2,500-pound vertical crushing load between steel plates. Notable speeding up is found in the rates at which glass containers may be handled with apparent disregard for temperatures and pressures. Catsup bottles, which are preheated and filled at boiling temperatures, are capped under a 400-pound impact pressure from the sealing machine. Not so long ago 90 bottles per minute was top speed for this operation; now 220 bottles per minute represents ordinary going.

With his spectrograph the physicist has detected and measured minute traces of metals and other elements in foods, both from the standpoint of substances required by the body and of those producing harmful effects. With it he can notice the presence of as little as one hundred-millionth of a gram of lead, and check fruits or vegetables which have been sprayed for pest control, spot impurities picked up by packaged food within its container, and study vitamin content. Already the spectrograph is being used by manufacturers of chocolate, condensed milk, chewing gum, and alcoholic beverages as a safeguard to ensure that alleged semipoisonous materials are kept well below the danger point. Some manufacturers are also finding spectrographic methods excellent for marking their products internally. By adding some harmless impurity not ordinarily found in their output, in amounts too small to be detected by chemical methods, they can afterward verify their own brands even when mislabeled or repackaged.

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Awards and Rewards

¶ For HARRY E. CLIFFORD '86, an honorary degree of doctor of science from Northeastern University in June.

¶ For AMADEUS W. GRABAU '96, the Mary Clark Thompson Medal of the National Academy of Sciences, "for most important services to geology and paleontology," in May.

¶ For JAMES LEWIS HOWE '96, the Herty Medal of the southern division of the American Chemical Society in May.

¶ For LOUIS S. CATES '02, a decoration of Knight of the Order of the Condor of the Andes, conferred by the consul general of Bolivia on June 3.

¶ For CLARENCE D. HOWE '07, honorary membership in the Engineering Institute of Canada in June.

¶ For GEORGE J. MEAD '16, an honorary degree of doctor of science from Trinity College in June.

¶ For CLAIR E. TURNER '17, an honorary degree of doctor of science from Bates College in June.

¶ For ELISABETH COIT '19, one of eight Edward Langley scholarships of the American Institute of Architects for study of design and materials in low-cost housing, September.

¶ For JAMES F. NORRIS, Staff, the Medal of the American Institute of Chemists, "for noteworthy and outstanding service to the science of chemistry and the profession of chemist in America," in May.

Books and Articles

¶ By ALBERT P. MATHEWS '92, "Principles of Biochemistry," William Wood and Company.

¶ By EDMUND SHAW '92, "Mining and Milling Methods and Costs at the Glass-Sand Plant of P. J. Weisel, Inc., Corona, Calif.," United States Bureau of Mines.

¶ By SAMUEL C. PRESCOTT '94 and BERNARD E. PROCTOR '23, "Food Technology," McGraw-Hill Book Company, Inc.

¶ By ROBERT S. WESTON '94, "The Treatment of Wool-Scouring Waste," *Journal of the Boston Society of Civil Engineers*, July.

¶ By AMADEUS W. GRABAU '96, "The Development of the Natural Sciences in China," *Science*, June 11.

¶ By FREDERICK G. CLAPP '01, "Geology and Bitumens of the Dead Sea Area, Palestine and Transjordan," *Bulletin of the American Association of Petroleum Geologists*, Volume 20, Number 7; "The Site of Sodom and Gomorrah," *American Journal of Archaeology*, Volume XL, Number 3.

¶ By SELSKAR M. GUNN '04, "The Doings of Dinkie," a book for children, D. Appleton-Century Company.

¶ By E. SHERMAN CHASE '06, "Experiences at Louisville, Kentucky, during the Ohio River Flood of 1937," *Journal of the Boston Society of Civil Engineers*, July.

¶ By DOUGLAS C. MCMURTRIE '10, "Who Started the Art of Gold-Tooling?" *Bookbinding and Book Production*, May.

¶ By RUFUS E. ZIMMERMAN '11, "The Brunorized Rail," *Official Proceedings*, New York Railroad Club, May.

¶ By FRANCES STERN '13, "Applied Dietetics," Williams and Wilkins Company.

¶ By ELBRIDGE J. CASSELMAN '15, collaborating with Lester Hollander, "Factors Involved in Satisfactory Shaving," *Journal of the American Medical Association*, July 10.

¶ By SAMUEL CHAMBERLAIN '18, "Cape Cod in the Sun," Hastings House; "Open House in New England," Stephen Daye Press.

¶ By FREDERICK S. BLACKALL, JR., '22, "Machine Tapers Become American Standard," *Industrial Standardization and Commercial Standards Monthly*, June.

¶ By NATHAN CHERNIACK '22, collaborating with Port of New York Authority, "Methods of Estimating Vehicular Traffic Volume with the Aid of Traffic Patterns," *Proceedings of 16th annual meeting of Highway Research Board*.

¶ By PARRY REICHE '22, "The Tor-eval-Block — A Distinctive Landslide Type," *The Journal of Geology*, July-August; "Quaternary Deformation in the Cameron District of the Plateau Province," *American Journal of Science*, August.

¶ By JOHN E. BURCHARD '23, "Prefabrication and the Realtor," in two parts, *Freehold*, July 15 and August 1.

¶ By HEINZ O. VORLANDER '30, "Archiv für Wirtschaftsprüfung," *Technik und Wirtschaft*.

¶ By SAMUEL B. ZISMAN '30, collaborating with Charles F. Hoban and Charles F. Hoban, Jr., "Visualizing the Curriculum," The Cordon Company.

¶ By JOHN G. CALLAN, JR., '34, "Controlling Causes of Problems in Paper Drying," *The Paper Mill and Wood Pulp News*, June 12.

¶ By DONALD W. TAYLOR, Staff, "Stability of Earth Slopes," *Journal of the Boston Society of Civil Engineers*, July.

¶ By the INSTITUTE LIBRARY, "A Technology Bookshelf," being a record of books published by Alumni during the years 1930 to 1935, with supplements for 1936 and 1937. This booklet may be secured from the Library upon request.

DEATHS

* Mentioned in class notes.

¶ EDGAR B. HAMMOND '73, August 12.

¶ CHARLES F. READ '74, August 5.

¶ THEO. J. LEWIS '76, April 14.

¶ FREDERIC J. BROWN '77, May 27.*

¶ EDWARD DAVIS '77, September 1.

¶ FRANK SKINNER '77, December 23.

¶ WALTER LARGE '79, February 4.

¶ CLARA P. AMES '82, May 11.

¶ EMMA O. CONRO '84, December 6.

¶ CHARLES A. BROWN '85, September 20.

¶ ALEX R. MCKIM '85, July 28.

¶ BENJAMIN F. GOODNOUGH '86, June 29.

¶ EDWARD F. MAHER '87, May 10.

¶ RICHARD G. SCHMID '87, June 7.

¶ ALFRED H. SAWYER '88, June 14.*

¶ CHARLES N. BORDEN '89, June.

¶ NATHANIEL BREWER '89, August 14.

¶ JOHN W. CASE '89, September 10.

¶ ELBRIDGE R. CONANT '89, September 24.

¶ HARRY D. SMITH '89, July 17.

¶ AUSTIN D. BOSS '90, May 10.

¶ WILLIAM H. JOHNSON '90, December 17.

¶ WALLACE MACGREGOR '90, September 19.

¶ CHARLES NEAVE '90, September 10.

¶ ALEXANDER MCKENNA '91, July 29.

¶ JOSHUA ATWOOD '92, June 20.*

¶ WILLIAM A. JOHNSTON '92, August 6.*

¶ HOBART E. MEAD '92, June 7.*

¶ WALTER M. NEWKIRK '92, date not known.*

EDWARD N. STONE '92, August 7.*
 CHARLES T. WENTWORTH '92, August 13.*
 ARTHUR A. BUCK '93, August 5.
 FRANCIS W. FABYAN '93, September 4.*
 A. C. GILL, (Mrs.) '93, November 17, 1936.
 GEORGE M. HOOPER '93, July 3.
 WILLIAM D. JACKSON '93, July 31.
 WILLARD A. MARCY '93, June 10.
 ALFRED C. TURNER '93, July 2.
 FRANK H. HOLDEN '94, May 29.*
 JOHN S. PECHIN '94, April 21.*
 CLARENCE D. POLLOCK '94, April 30.*
 ETHEL BARTHOLOMEW '95, September 14.
 WILLIAM J. BATCHELDER '96, February 25.*
 JOSEPH DRISCOLL '96, May 26.*
 ELMER F. GERBER '97, June 4.
 ARTHUR T. DAVIS '98, July 31.*
 CHARLES H. SMITH '98, October 1.
 FRANK D. CHASE '00, July 23* (see also 1901).
 JAMES M. FRASER '00, May 4.
 WILLIAM NILES '01, August 14.*
 JOHN A. TROTT '01, August 10.
 CHARLES MCINTOSH '03, July 22.
 LAURA S. PLUMMER '03, July 14.
 MOSES BROWN '04, April 22.
 EDWARD E. STETSON '04, July 13.
 LUTHER GILMORE '05, August 13.*
 EDWARD M. READ '05, July 15.*
 SYLVESTER B. EAGAN '06, August 7.
 JOSEPH W. JOHNSON '06, May 6.*
 LOUIS F. MESMER '06, January.
 FRANK L. NILES '07, March.
 WILLIAM TURNBULL '07, May 14.*
 FRANCISCO REYES '08, June 11.
 G. BERGEN REYNOLDS '10, September 6.
 WILLIAM SALISBURY '11, May 18.
 NOYES WELTMER '11, July 17.*
 CLARENCE E. MORROW '12, June 6.
 WILLIAM S. BLACK '13, June 15.*
 SAMUEL BRECK, JR., '13, August 21.*
 JOSEPH OPPENHEIM '13, July 8.
 CHARLES CORNELIUS '16, July 14.
 WILLIAM COSTELLOE '18, July 27.
 PERRY A. HEWITT '18, March 6.
 ROBERT W. FERRELL '20, May 31.*
 HARTLEY E. WHITE '21, July 29.
 ELMER L. JOHANSEN '22, July 10.
 EDWARD C. SHAW '22, July 11.
 DUDLEY MOORE '23, May 30.
 WILLIAM T. DUNCAN '24, June 6.
 GEORGE G. MORRILL '27, May 20.
 RICHARD C. AUSTIN '29, April 19.
 WALTER A. VORCE '32, July 8.
 EDWIN HIGGINS, JR., '33, July 13.
 HARRY M. TRACY '34, September 24.
 ARTHUR GREENWELL '36, July 7.
 FRANK A. VANDERLIP, Corporation, June 29.

COMPARATIVE SCHOLASTIC STANDINGS OF UNDERGRADUATE ACTIVITY, DORMITORY AND FRATERNITY GROUPS

(Based on June, 1937, Ratings)

| | Average | Increase Over June, 1936 | Corresponding Rank in June, 1936 |
|---|--------------|--------------------------------|--|
| 1. Officers of the M.I.T.A.A. | 3.69 | *0.28 | 1 |
| 2. Tau Beta Pi | 3.64 | *0.31 | 2 |
| 3. M.I.T. Student House | 3.634 | ** | .. |
| 4. Alpha Chi Sigma | 3.63 | *0.17 | 3 |
| 5. Chi Epsilon | 3.62 | *0.105 | 4 |
| 6. Officers and Representatives, Combined Professional Societies | 3.59 | *0.08 | 6 |
| 7. T.E.N. Staff | 3.55 | 0.037 | 12 |
| 8. Phi Beta Delta | 3.50 | 0.11 | 21 |
| Average of 569 men in 20 activity groups | 3.48 | 0.04 | .. |
| 9. T.E.N. Management | 3.48 | 0.145 | 24 |
| 10. Theta Delta Chi | 3.45 | *0.12 | 9 |
| 11. The Tech Staff | 3.44 | 0.02 | 18 |
| 12. Kappa Sigma | 3.43 | 0.14 | 28 |
| 13. T.C.A. Cabinet | 3.429 | 0.309 | 41 |
| 14. Sigma Alpha Mu | 3.41 | 0.05 | 22 |
| 15. Institute Committee | 3.38 | *0.16 | 11 |
| Average of 159 men on staffs of activities but not holding managerial or executive posi- tions | 3.374 | 0.008 | .. |
| 16. Phi Kappa Sigma | 3.37 | 0.181 | 36 |
| 17. Lambda Chi Alpha | 3.364 | 0.176 | 37 |
| 18. Delta Upsilon | 3.36 | 0.112 | 30 |
| 19. Voo Doo Management | 3.35 | *0.049 | 20 |
| 20. Wearers of the "T" | 3.33 | *0.39 | 5 |
| 21. Dormitory Committee | 3.32 | 0.093 | 32 |
| 22. Sigma Nu | 3.313 | 0.013 | 27 |
| 23. Phi Mu Delta | 3.311 | *0.019 | 45 |
| Average of 425 dormitory residents | 3.31 | 0.01 | .. |
| 24. Varsity Sports Captains | 3.30 | *0.142 | 17 |
| Average of all undergraduates | 3.29 | 0.01 | .. |
| 25. Technique Staff | 3.288 | 0.368 | 48 |
| Average of 154 men holding managerial positions | 3.28 | *0.12 | .. |
| 26. Phi Delta Theta | 3.27 | 0.06 | 33 |
| Average of 180 men engaged in athletic activities | 3.27 | *0.22 | .. |
| Average of 180 men in publications activities | 3.26 | *0.115 | .. |
| 27. Delta Tau Delta | 3.24 | *0.005 | 31 |
| 28. Phi Gamma Delta | 3.234 | 0.124 | 42 |
| 29. Delta Psi | 3.233 | *0.217 | 16 |
| Average of 629 members of 24 social fraterni- ties (Does not include: Tau Beta Pi, Alpha Chi Sigma, Chi Epsilon) | 3.23 | *0.02 | .. |
| 30. Voo Doo Staff | 3.222 | *0.328 | 10 |
| 31. Sigma Chi | 3.22 | 0.185 | 46 |
| 32. Phi Beta Epsilon | 3.215 | *0.395 | 7 |
| 33. Wearers of Institute Insignia | 3.21 | *0.254 | 15 |
| 34. Sigma Alpha Epsilon | 3.17 | *0.32 | 14 |
| 35. Beta Theta Pi | 3.16 | *0.18 | 23 |
| 36. { Theta Chi | 3.139 | 0.459 | 49 |
| { Phi Sigma Kappa | | *0.031 | 38 |
| 37. The Tech Management | 3.10 | *0.187 | 29 |
| 38. Chi Phi | 3.08 | *0.52 | 8 |
| 39. Phi Kappa | 3.07 | 0.11 | 47 |
| 40. Alpha Tau Omega | 3.01 | *0.118 | 35 |
| 41. Delta Kappa Epsilon | 2.93 | *0.235 | 39 |
| 42. Varsity Sports Managers | 2.82 | *0.493 | 26 |
| 43. Theta Xi | 2.81 | *0.389 | 34 |
| 44. Technique Management | 2.63 | *0.88 | 13 |

* Decrease

** Not ranked

NEWS FROM THE CLUBS AND CLASSES

CLUB NOTES

M.I.T. Club of Akron

The last meeting of the 1936-1937 season was held on Thursday, June 17. Following a stag dinner, the annual election of officers was held, at which Albert J. Gracia '28 was chosen president. George A. Sackett '18 is chairman of the social committee and John H. Fielding '25, secretary-treasurer. — The evening was spent in a showing of several films of the dirisible *Hindenburg* disaster and, finally, in a social gathering of a more cheerful nature.

Plans for this year are still tentative. As an innovation, the social chairman will have a committee of three to help him. — JOHN H. FIELDING '25, *Secretary*, 533 Litchworth Drive, Akron, Ohio.

Technology Club of Eastern and Northern Maine

Renewing activity after a lapse of several years, Technology Alumni in the Bangor area held a dinner meeting in the English Room of the Bangor House on the evening of May 27. Arrangements for the meeting had been made by H. S. Boardman '96, F. E. Bragg '97, W. J. Sweetser '01, and H. S. Gardner '30, with the coöperation of Alumni Secretary Charles E. Locke '96. W. C. Peters '02 officiated and introduced the guest of the evening, Samuel C. Prescott '94.

In an interesting and informal manner, Dean Prescott told of recent developments at the Institute. Replying to questions from the audience, he briefly outlined several of the successful research programs that have been carried out under the auspices or with the coöperation of the Department of Biology and Public Health, of which he is the head.

At the conclusion of the meeting, it was voted to authorize H. S. Gardner to organize a committee which would plan for continued activity of the Club. Those in attendance were: F. E. Bragg '97, C. E. Danforth '05, Gertrude E. Ebbeson '33, H. S. Gardner '30, C. G. Paine '15, W. C. Peters '02, H. Sawyer '99, and R. P. Whitney '35 of Bangor; H. D. Chase '23, M. E. Highlands '34, A. C. Lyon '04, C. E. Packard '20, and W. J. Sweetser '01 of Orono; M. S. Howe '20 of Bucksport; H. T. Clark '23 of Dover-Foxcroft; and P. B. Stinson '37 of Rockland. — HOWARD S. GARDNER '30, *Secretary*, M.I.T. School of Chemical Engineering Practice, Eastern Manufacturing Company, Bangor, Maine.

Summer Mining Camp, Dover, N.J.

Interest shown by Alumni in the activities at Camp prompts us to present this brief report. A successful session of the

Camp — in the charge of F. L. Foster '25, with J. S. Lukesh '36 assisting — was completed on September 20.

W. S. Hutchinson '92, in charge of the Department of Mining Engineering at the Institute, spent several days calling upon his many acquaintances in the New Jersey iron mining region during his stay. W. R. Francis '26, assistant division traffic engineer of the Western Union Company in New York City, and L. W. Johnston '31 of the Nassau Smelting and Refining Company, Staten Island, N.Y., stopped at camp for several hours. Others who came to look things over were M. C. Conkey, Jr., '25, bridge department, Baltimore and Ohio Railroad, Baltimore; A. W. Baker '26, resident chemist for Hercules Powder Company, Kenil, N.J.; John Worcester '30, who sailed for the west coast of South America on September 10; L. P. Hill '36, engineering department of the International Printing Ink Company, New York City; H. D. Chase '23, who had been taking a field geology trip through Virginia and North Carolina and was returning to Orono, Maine, to take up his teaching work at the University of Maine; and R. V. Crowley '27, mine captain at the Number 3 Mine, Bethlehem Mines Corporation, Cornwall, Pa.

During the mining practice visits to Pottsville and Cornwall, Pa., the Camp group met other Alumni. R. V. Crowley served as guide for the visit to the open-pit mine of the Bethlehem Steel Corporation at Cornwall, and Robert Faulkner '04, superintendent of the concentrator of the Bethlehem Steel Company, conducted the group through that plant. A. J. Breitenstein '31, engineer with the Philadelphia and Reading Coal and Iron Company, met the group at Pottsville, Pa.

M.I.T. Club of Northern New Jersey

Club activities for the 1937-1938 season were initiated at a first meeting of new officers called by President Vilett '22 on June 28 last. Since that time the several committees responsible have carried through on plans for three large-scale meetings to be held at the Newark Athletic Club, plus two and possibly more outside of Newark — such as a ship launching or brewery visit, a spring outing, and a regional assembly, with Ridgewood scheduled for number one.

The first main smoker is to be held early this month at the Newark Athletic Club. C. A. Clarke '21 is general chairman of the program committee for the year, while the first session falls under the leadership of J. F. Maguire '17 assisted by D. A. Straight '24 and M. K. Burckett '21. Detailed notices of this and other activities such as interclub (yes, New York and New Jersey are again

friendly rivals for inscription on the bridge cup) employment aid, regional and luncheon information have been mailed to the 1,200 members on file. The first monthly luncheon was well attended at the Newark Athletic Club on October 14. Through May, 1938, these will be regularly enjoyed from 12 to 2 P.M. on Thursdays, under the chairmanship of A. W. Lunn '09. All changes of address should be referred to the Assistant Secretary. — A. RAYMOND BROOKS '17, *Secretary*, Wayside, Brantwood, Summit, N.J. FREEMAN B. HUDSON '34, *Assistant Secretary*, Colgate-Palmolive Peet Company, 105 Hudson Street, Jersey City, N.J.

S.P.E.E.

A happy event in connection with the meetings of the Society for the Promotion of Engineering Education, held at M.I.T. and Harvard during the week of June 28, was a luncheon of the visiting Technology Alumni in the Faculty Dining Room at Walker Memorial on Thursday, July 1. A very warm spirit of sociability and good-fellowship prevailed. The luncheon and meeting were snappy. A. L. Townsend '13, who had charge of the affair, introduced as toastmaster, Marshall B. Dalton '15, designating him as the greenest alumni president on record. Dalton acknowledged this and confessed that he had been in office only about 12 hours. Without further preliminary remarks he called upon five speakers in the order named: Dean of Engineering, Vannevar Bush '16, dealt with his province, and, likewise, Dean of Science, Samuel C. Prescott '94, dealt with his province, as far as he could define it. He frankly confessed that he was stealing quite a bit of engineering in his division. Charles E. Locke '96, Alumni Secretary, spoke on three items of alumni interest. Karl T. Compton, President, dealt primarily with bricks and mortar, as he expressed it, meaning that he outlined the building plans at the Institute. F. L. Bishop '98, professor of physics at the University of Pittsburgh and long-time secretary of the S.P.E.E., touched a sympathetic cord when he exposed to the meeting his own personal conception of the strong influence that teachers have upon their pupils, and the great responsibility thus incurred in setting a good example of conduct through teaching. The whole affair was over in 90 minutes and the members present scurried away to attend other scheduled features of the S.P.E.E. program.

The roster of the 66 men who attended this meeting follows: C. Francis Allen '72, Edmund D. Ayres '22, Wayland S. Bailey '19, J. W. Barker '16, George W. Barnwell '14, Harold W. Bibber '20, Frederic L. Bishop '98, Henry W. Blackburn '08, Edward L. Bowles '22, Paul H. Burkhart

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

CLASS NOTES

1877

'18, Vannevar Bush '16, Allison Butts '13, Edwin F. Church, Jr., '01, Karl T. Compton, Hardy Cross '08, James R. Cudworth '21, Allan R. Cullimore '07, Harold N. Cummings '10, Paul A. Cushman '11, Marshall B. Dalton '15, Groucho Marx Dodge '29 (apparently one Alumnus present preferred to conceal his identity for financial reasons or marital reasons or maybe for income-tax-evasion reasons), Lewis K. Downing '23, Carl S. Ell '11, John G. Fairfield '16, Alfred J. Ferretti '17, Joseph B. Finnegan '04, Fred E. Foss '86, F. Malcolm Gager '30, Frederick E. Giesecke '04, Herbert J. Gilkey '16, Ellsworth S. Gray '25, Albert E. Heins '34, Allen W. Horton, Jr., '36, Warren E. Howland '22, W. Spencer Hutchinson '92, Dugald C. Jackson, D. C. Jackson, Jr., '21, Harold R. Kepner '20, Philip G. Laurson '10, Charles E. Locke '96, Israel H. Lovett '14, Thomas M. Lowe '25, Horace T. Mann '25, Lorin G. Miller '15, William J. Miller '22, John Mills '09, Louis Mitchell '15, George Sims Parker, Clinton E. Pearce '13, Herbert S. Philbrick '06, Andrey A. Potter '03, Albert P. Powell '22, Samuel C. Prescott '94, Henry E. Richards '18, Donald G. Robbins '07, Gilbert H. Sechrist '25, Harner Selvidge '32, Stanley S. Seyfert '32, C. Hale Sutherland '10, Arthur L. Townsend '13, James L. Tryon, Carlton E. Tucker '18, Earle O. Turner '14, Dennistoun W. Ver Planck '28, and Elton D. Walker '90.

Washington Society of the M.I.T.

And 'twas "always fair weather" — in spite of troubled waters from the heavens above — when the ladies of the Society were given their annual dinner at the Congressional Country Club on the evening of April 26. From the resounding "Regular M.I.T." for Prexy to the last strains of "Home, Sweet Home," made melodious by the electrical violin of Happy Walker's orchestra, the party was a success. The excellent dinner was enlivened by Technology songs and cheers, not to mention spontaneous bursts of vocal enthusiasm from an especially exuberant table of Tech-song rehearsal addicts and limerick authors. Among those seated under a huge pennant at the speakers' table were Karl T. Compton, President of the M.I.T.; Harry W. Tyler '84, President of the Society, and his daughter; Jerome C. Hunsaker '12; Professor and Mrs. William Hovgaard; Proctor L. Dougherty '97, Honorary Secretary, and Mrs. Dougherty. Dr. Tyler, in his usual inimitable form as toastmaster, introduced President Compton, who reviewed briefly Institute activities and progress. Especially interesting were his previews of the discovery of a method of treating radium poisoning. Professor Hunsaker, the second speaker of the evening, was enthusiastically acclaimed, both by applause and in song. The dinner committee consisted of Allen B. McDaniel '01, chairman, Amasa M. Holcombe '04, William K. MacMahon '22, W. C. Mehaffey '17, and L. W. Conant '21.

An unusually large attendance marked the spring luncheon of the Society at the

Cosmos Club, where 45 good fellows got together to hear Edwin Smith, a member of the Labor Relations Board, discourse most interestingly upon the activities of that important body. The speaker stated that, since its organization, the Board has handled more than 2,000 cases, many of which might otherwise have resulted in serious strikes which would have cost employers and employees millions of dollars. As indicative of the rapid changes which are taking place in mass thinking in this field, Mr. Smith pointed to the recent balloting by numerous large groups of employees, who for the most part have voted favorably with reference to organization for collective bargaining.

As is customary at the spring meeting, an election of officers for the ensuing year was held, with the following results: President, Harry W. Tyler '84; Vice-President, Charles P. Kerr '11; Treasurer, Charles H. Godbold '98; Executive Secretary, Henry D. Randall, Jr., '31; Corresponding Secretary, Lawrence W. Conant '21; Executive Committee, Amasa M. Holcombe '04, Julius E. Nolte '98, and Merton L. Emerson '04.

The final luncheon for the last season was held at the Cosmos Club on June 18. Chairman Dougherty announced for the scholarship committee the selection of Albert H. Bowker of Woodrow Wilson High School, who has been granted a scholarship to attend the Institute during the present school year. Robert S. Clements '40, who received a similar scholarship last year, reported most enthusiastically on his experiences as a freshman.

President Tyler '84 introduced Edwin W. James '07, who gave a most interesting illustrated lecture on "The Inter-American Highway" — a projected artery of modern transportation destined in time to connect Laredo, Texas, with the Panama Canal Zone. To date, barely half of the 3,280 miles separating these two points has been made "navigable" for automobiles. Mr. James pointed out that before completed portions of the new highway were built, only two of the seven intervening countries between the United States and Panama enjoyed any form of transportation across their adjacent borders. The modern thoroughfare which someday will bring closer together all seven of these nations has already done much to augment good will toward the United States, according to Mr. James.

The first regular monthly luncheon meeting of the Society to be held this season occurred on Friday, September 17, at the Cosmos Club. By special arrangement through Proctor L. Dougherty '97, the numerous Alumni present were privileged to see and hear the excellent sound moving picture describing the planning and erection of the Oakland-San Francisco Bay Bridge. Specific hints regarding equally entertaining features to be enjoyed by the Society at subsequent luncheons throughout the year were voiced by President Tyler, presiding as chairman of the meeting. — LAWRENCE W. CONANT '21, Secretary, 3008 Ordway Street, Northwest, Washington, D. C.

The Class, at the invitation of their President, Charles A. Clarke, met at the Exchange Club, Milk Street and Battery-march, on June 8 for their 60th reunion. Out of 24 surviving members, 12 were present. In the order in which they sat at the table, these were Charles A. Clarke, George W. Kittredge, Joseph P. Gray, Byron E. Higgins, William H. Beeching, George F. Quimby, Frank I. Sherman, Benjamin C. Mudge, Arthur L. Plimpton, Edward W. Davis, Henry D. Hibbard, and Belvin T. Williston. On entering the room each classmate was presented with a four-leaf clover that had been picked from a small bunch at the home of President Clarke. At each plate was the member's name and a souvenir in the form of a figure in graduating costume. In the center of the table was a pile of packages, on the top of which was a larger figure in graduating costume, and from each package was a ribbon running to each plate; a pull produced a joke present which added to the jollity of the occasion.

Postals and letters were read from absent members. The letter from Bacon is of such interest that we present it in full: "Just as I was preparing to send an answer to yours of April 3, inclosing 'Spanish Architecture,' 'Florida Alligators,' and a photo of the Old Man himself, when along comes yours of May 6 with good old Clarke's 'invite' to the Exchange Club, there on Battery-march Street, and now who of the old guard will be there? To one and all I send a hearty greeting and I hope Plimp will be there feeling fit as may be. Ask him if his clock keeps good time, and he mustn't forget the fight with the Faneuil Hall butchers coming up Cambridge Street there in the '76 Hayes-Tilden parade. What excitement! And now I hear that our old Tech building is to come down and a big life insurance building goes up. No more can we go into the hall to smell the cocoanut matting or slide down the bannisters! (What a shame it was to put those metal spikes on that rail.) Well, memories of the old gym with the 35-cent lunch room upstairs and Fowler, the darky caterer, handing you the water, saying, 'Here's your H₂O.' A little knowledge is a dangerous thing! Then came Philadelphia — tents on the Pennsylvania University campus, Zalinski, hero of the 'Dynamite Gun' in the Spanish War.

"Well, I'd better get back to earth and the Exchange Club. But *you*, the venerable Ancient and Honorable, can tell the boys how you are going to lead your barworn, bottlescarred veterans in your circus uniforms to Londontown to meet the king. How tickled he will be — not being used to parades and things. But 'dammitall,' I want to strike a serious note, for here we are all more or less near the knockout, but who cares? 'Tis the heart kept young inside of us that counts, and so, farewell, good Williston and brothers of '77." — Bacon inclosed a

1877 Continued

copy of a letter written to Horace Moran of New York City. We found it interesting and are holding it for a subsequent issue.

Frederic Johnson Brown of 37 Arlington Road, Woburn, Mass., son of Jacob and Elizabeth Johnson Brown, was born in Woburn on September 1, 1855, and died of pneumonia at the Choate Memorial Hospital on May 27. He was graduated from the Woburn High School. He was at the Institute for two years as a special student in the civil engineering course. After leaving the Institute, he entered his father's firm, A. S. and J. Brown and Company, foreign fruit importers and jobbers in Boston for about 20 years. For many years he was in the ice business; later he established the firm of Brown and Gifford in Woburn. He was vice-president and on the investment committee of the Woburn Five Cent Savings Bank, director of the Woburn Coöperative Bank, on the board of trustees of the Woburn Charitable Association, and a member of the executive committee of the Choate Memorial Hospital since 1909. From 1915 to 1919 he served in the state House of Representatives, and at one time was Woburn city auditor.

Mr. Brown was also deacon of the First Congregational Church at Woburn. He was a member of the Towanda Club, an associate member of the G.A.R., and formerly president of the Warren Academy Industrial School. He leaves two sisters, Elizabeth Brown and Mrs. Theodora Silver, and a brother, J. Winn Brown, all of Woburn. The funeral was at the home, and interment was in Woodbrook Cemetery. The Charles Choate Memorial Hospital paid tribute to our classmate by voting: "That in recognition of the valuable services rendered by Mr. Brown in the promotion and organization of the Charles Choate Memorial Hospital, in consideration of his continued activity during the first years of the Hospital's existence, and in grateful appreciation for all the help and advice he has given to make the Hospital successful and valuable to the people of Woburn, the Executive Committee desire to spread upon their records this expression of their regard for his memory, deep sorrow for the loss the community has sustained in his death, and sincere sympathy for his family in their affliction. That this resolution be published in the Woburn *Daily Times*, and a copy sent to the family of the deceased."

A letter from William Hallett, The Lancaster Hotel, Denver, Colo., inclosed a clipping from the Denver *Post* of June 6, which is quoted in part for the attention of readers of *The Review*: "... Hallett, rounding the four-score milestone straight as an arrow, with a keen eye and a clear mind, is part of the old west. He knew it as few men living today know it, and it lives with him in the burning embers of reality. But in the first place, let it be known that he is not a pioneer. You might think that a man who came to Colorado in 1878, who knew Denver when Stout street between Fifteenth and

Sixteenth streets was 'out in the country,' and who ran cattle on virgin range in Johnson county, Wyoming, before the big rustlers' war, is a pioneer, but he doesn't. He defines a pioneer as someone who came west ahead of the railroads as an able-bodied man or woman, not as an infant in arms, and under that definition he can't qualify. Hallett came to Colorado in a Pullman car, over the Union Pacific to Cheyenne and thence on the old Colorado Central to Golden City and Denver, with a brand-new engineer's degree from the Massachusetts Institute of Technology in his pocket.

"That was just fifty-nine years ago last Friday, and in the intervening years he has seen history made and had a hand in the making. When he came he had no idea of staying. He came as many others have come since, on vacation, and liked the country so well he never went back — much — and he's glad of it! Having studied to be an engineer, he decided it would be more fun to go into the cattle business. It was. He found it so much fun that at one time 35,000 cattle carried the Hallett '21' brand on the Wyoming ranges, and his chuck wagons rolled farther than the eye can see on annual roundups. . . . Hallett maintains an extensive correspondence with writers of western stories, who find him a fertile source of material, and also corresponds with several persons in Hollywood, including Cecil B. deMille, who directed 'The Plainsman,' and with Gary Cooper." — BELVIN T. WILLISTON, *Secretary*, 3 Monmouth Street, Somerville, Mass.

1888

Alfred H. Sawyer, President of the Class for 38 years, died on June 14 at the Charlesgate Hospital, Boston. His passing was a great shock to all of us who had seen him within a month of his death, which was caused by angina pectoris and complication. Sawyer was born in Concord, Mass., where he resided all his life, the son of Charles A. and Josephine J. Sawyer. After graduation he entered the employ of the B. H. Sturtevant Company, Hyde Park, Mass. He rose to be New England sales manager. He was with the Sturtevant Company till 1909. For the last 25 years of his life he was president of the J. G. Thompson Manufacturing Company of Waltham. He was also president of the Middlesex Products Company, Cambridge. He was prominent in Concord business and civic affairs and was a member of the Concord Board of Trade for many years. He was unmarried, leaving several cousins.

Sawyer was a member and past president of the Appalachian Mountain Club, Boston City Club, Engineers Club, and Concord Country Club. He was a member of the Alumni Council for the Class since the death of William G. Snow, former Class Secretary, in 1930. Sawyer left a fortune of more than one million dollars. In his will he stated that he "would like to have my friends hereinafter named relieved as far as may be from fear of want, so that they may end their days in comparative comfort." Then followed a list

of 29 friends, including two second cousins, who receive annuities for life. On the death of these, one half of the residue goes to Technology and the other half to 11 churches and charitable organizations. His home he gave as a residence for teachers in the Concord public schools. Alfred Sawyer, engineer, manufacturer, philanthropist, and friend, will live in the memories of hundreds of his associates and in the thoughts of all '88 men until the Class is no more. The funeral took place on June 17 at his home, 17 Wood Street, Concord. The house was filled to overflowing with his many friends, including the following from the Class: Bates, Buttolph, Collins, Runkle, Sjöström, and Wood. Floral gifts covered all available space in the music room, including a large wreath of roses from the Class.

Members of the Class present on Alumni Day, June 7, were: Bridges, Buttolph, Conner, Ellis, Faunce, Hamblet, Reynolds, Thompson, Wood, and Webster. — Elizabeth, daughter of Mr. and Mrs. John C. Runkle, was married to W. F. H. Purcell on June 14. — Ned Webster went on his annual fishing trip to the Moisie River in June and reports that he got only 54 salmon which averaged only about 16 pounds — much less than former years.

Frank M. Ladd's wife passed away on April 25 after 53 years' companionship. His grandson was graduated from the University of Oklahoma as an oil geologist in June. — Frank G. Krucker, with us during our freshman year only, died in 1926, but news reached us only recently. — Nathaniel I. Bowditch, with our Class for three years, dedicated a 4-H Lodge club building at the Massachusetts State College at Amherst in July after 42 years as trustee. The building was named for him and he lighted the first hearth fire in the structure. — Lieutenant Colonel Wood reviewed the Technology regiment on May 14 and presented, for the Sons of the American Revolution, two medals to the outstanding students in the Reserve Officers Training Corps. Fred says that he was received like a conquering hero. He says also that he found, in a glass cabinet, the stand of colors which '88 captured at the Soldiers Home Bazaar in Mechanics Building in the fall of 1884. Wood, Nichols, Underwood, and Blood were the leaders in this contest which brought victory to our Class.

The Norfolk *Ledger-Dispatch* says that our classmate George W. Roper's Norfolk Shipbuilding and Drydock Company is working at top speed on four big ships of the Shipping Board fleet to recondition them for the China trade due to the war in China, which is creating a boom along Norfolk's waterfront. — John G. Faxon says he is saving dates, time, desires, and pennies for our grand 50th next June; also, if urged sufficiently, he might write a short poem for our banquet — "not too pedantic nor too trivial." Here's hoping he is urged. — The following have written your Secretary recently, stating that they are planning to help celebrate our semicentennial in 1938: Dearborn, East-

Alumni Are Raising \$1,650,000 for a Technology Gymnasium and Other Recreational Facilities. If You Have Not Subscribed, Increase Your Class Total Now.

1888 Continued

man, Ferguson, Mead, Merrell, F. A. Moore, and D. H. Perkins. These do not include the 30 regular attendants, so we should have a large gathering. — BERTRAND R. T. COLLINS, *Secretary*, Chebeague Island, Maine.

1892

The Class held the 45th anniversary of its graduation in Harwich Port, Mass., at the summer home of our President, William R. Kales of Detroit, Mich. Mr. and Mrs. Kales acted as hosts during the three days of the reunion, the 4th, 5th, and 6th of June. Some 27 members were present, drifting in and out during the three days.

The person who traveled farthest to attend the reunion was Severance Burrage whose home is in Denver, Colo. W. Palmer Gray came from Richmond, Va.; Charles N. Palmer from Pittsburgh, Pa.; George H. Ingraham from Cleveland, Ohio; Charles H. Muhlenberg from Reading, Pa.; William R. Kales from Detroit, Mich.; and 21 others from nearer points, as follows: Mrs. Mary Holman, Harry J. Carlson, Charles L. Nutter, Charles H. Chase, Arthur W. Dean, Charles E. Fuller, Walter T. Littlefield, Charles F. Park, Joshua Atwood, William A. Johnston, Chas. Hudson Bigelow, James H. Slade, Moses J. Look, W. Spencer Hutchinson, William W. Locke, Winthrop L. Tidd, Albert F. Sargent, Arthur J. Ober, Alden P. Marsh, Fred B. Maynard, and Arthur M. Worthington.

With the exception of three, all of those present have followed lines of work for which their technical training at the Institute directly prepared them. Six are professors of engineering and allied subjects; nine are engineers in public services, having in their charge water supplies, highways, railroads, harbors and docks, public health; four are architects; four are manufacturers and engineers connected with the iron and steel industry; two are life members of the Corporation of the M.I.T., the governing body of their Alma Mater; one is a woman whose life work is in the field of genealogy.

During Friday and Saturday these Tech students of 45 years ago renewed their friendships, discussing with each other the events of their college days and the years they have been following their separate paths through life. They played golf, sailed on Nantucket Sound, drove around the beautiful parts of the Cape in the neighborhood. And they had a grand time. After one of Biddle Thompson's fine shore dinners at the Snow Inn on Saturday, they adjourned to the Kales's house for their business meeting and election of officers who are to serve the Class until their 50th anniversary, five years hence.

Your Secretaries have a sad duty to perform in recording the deaths of a number of our classmates, among them Joshua Atwood and William A. Johnston who attended the reunion. Joshua Atwood, deputy public works commissioner for the city of Boston and a veteran of nearly a half century of city service, was stricken aboard the motorship *Saturnia* at Com-

monwealth Pier, June 20, and died a short time later. He was in his 67th year. With Mrs. Atwood he had boarded the *Saturnia* to greet Miss Marie Winton of Tampa, Fla., a young cousin, who had sailed from New York aboard the vessel on her way to Europe. While Mrs. Atwood was seeking to find Miss Winton's cabin, her husband sat in a chair on deck and collapsed. He was unconscious when Mrs. Atwood returned and died in an ambulance on the way to City Hospital. He was born in Boston on September 16, 1869, son of Joshua and Hannah Atwood, and attended English High School. He entered the city service in 1889 and, at the same time, worked his way through M.I.T. In 1895 he was sent to London to study the Workhorse Relief Association there by the late Henry Merwin, founder of the organization here, and later became treasurer of the local group. On his return he became deputy superintendent of street cleaning until 1900, when he was appointed assistant engineer of the Boston Elevated Railway in charge of track construction. In 1901 he was made assistant engineer of the Navy Department, Bureau of Yards and Docks, assigned to the Charlestown Yard. He belonged to the Boston Athletic Association for many years and was one of the original members of the Puritan Club. He also held membership in the Sons of the Revolution, Washington Lodge, Ancient Free and Accepted Masons, and Mount Vernon Chapter of Roxbury. He was active in the affairs of the First Corps Cadets and at one time held a captaincy. During the World War he was commissioned a captain in the Army. He married Carrie N. Pervere of Cambridge in 1896. Mrs. Atwood and two sons, Benjamin Wells Atwood of New York and Raymond P. Atwood of Watertown, survive.

William Atkinson Johnston died suddenly after a short illness at his home, 35 Hillside Terrace, Belmont, Mass., on August 6. He attended the reunion in apparently good health, and entered into the occasion with the spirit of good-fellowship which he always showed. Johnston was born in South Boston on August 31, 1868, the son of Archibald and Mary Watt Johnston. On graduating from the English High School, Boston, he entered Technology in the fall of 1888, and was graduated in mechanical engineering with our Class. In October, 1892, he was appointed an assistant in the Department of Mechanical Engineering, and served continuously for 41 years as a member of the Institute staff, until his retirement as professor emeritus in 1933. He had been advanced in grade to instructor in 1894, assistant professor in 1900, associate professor of mechanical engineering in 1906, and appointed professor of theoretical and applied mechanics in 1912. He collaborated with Charles E. Fuller in the authorship of a textbook on "Applied Mechanics" in two volumes, which has been a standard text for engineering students for the past 20 years. Outside of his activities as a member of the Institute staff, he served continuously as an active member of the teaching staff

of the Lowell Institute from the time of its organization in 1903 until his retirement as professor emeritus. Professor Johnston was for many years a member of the American Society of Mechanical Engineers, the American Society for Testing Materials, and other engineering organizations, and frequently served as an expert witness in cases before the courts. For a number of years prior to the War he was secretary of our Class. He leaves a widow, Mrs. Edith Crane Johnston, and one daughter, Mrs. Ruth Johnston Drummond.

Edward N. Stone recently with the Title Guarantee and Trust Company, Brooklyn, N.Y., died on August 7. We have no further details at present, but some of you will remember that Stone attended our reunion in 1932 at Old Lyme, Conn. We hope to have more news in due course. — Charles T. Wentworth died at his home in Dorchester, August 13. He had been for many years a member of the staff of the Dorchester High School, beginning in 1901, and at the time of his death was master of the Dorchester High School for Girls. After four years at M.I.T., he transferred to Harvard College, from which he was graduated with a master of arts degree with the class of 1894. He taught for some time at Harvard and the University of Wisconsin, and for two years was professor of history at the Institute, before taking up the work he liked best in the high school. Surviving are Mrs. Wentworth and a daughter, Mrs. S. Wakefield Minor of New York.

Walter M. Newkirk, an engineer and descendant of a Colonial family, died of a heart attack at Bryn Mawr Hospital soon after he was injured in an automobile accident. Mr. Newkirk was on his way to his Radnor home with his wife, Mrs. Alice Maynard Field Newkirk, when their car, driven by Mrs. Newkirk, was in collision with another. Mrs. Newkirk was treated for cuts and bruises. Mr. Newkirk received a gash on his head. Physicians had finished treating him for the comparatively slight injury when he collapsed and died almost instantly. They said a heart attack, brought on by the shock of the accident, apparently caused his death. One of his first engineering jobs was building the Detroit lighting plant, and later he was associated with a firm of consulting engineers. He was vice-president and general manager, until a few years ago, of William and Harvey Rowland, Inc., makers of automobile springs. He was also in the insurance business for a time, but had been in retirement since 1930.

Hobart Emery Mead died June 7, after a long illness. He was born in West Acton, Mass., on July 4, 1870, a son of Oliver Warren and Lucy Emery Mead, and lived there all his life. He received his early education there, later being graduated from Chauncy Hall in Boston in 1887, and after taking a postgraduate course there, he studied for a year at M.I.T. He was connected with the wholesale produce concern of A. and O.W. Mead and Company in the Boston market from 1890 to 1900. In January, 1894, he was made

1892 Continued

cashier of the First National Bank of Ayer, a position he held until January, 1911, when he resigned on account of poor health. He was a director of the Ayer Savings Bank. He had been a member of Acton Lodge, Independent Order of Odd Fellows. He leaves a wife, Mrs. Albertie Preston Mead, whom he married on June 23, 1897, and a daughter, Miss Pauline Anderson Mead of New York.

Members of the Class will be glad of the news that John Hall has completely recovered from the illness and serious operation which kept him away from the reunion. — JOHN W. HALL, *Secretary*, 8 Hillside Street, Roxbury, Mass. W. SPENCER HUTCHINSON, *Assistant Secretary*, Room 8-219, M.I.T., Cambridge, Mass.

1893

Francis Wright Fabyan, life member of the Technology Corporation and former Class President, resident at 282 Beacon Street, Boston, died at his summer home at Buzzards Bay, Mass., on September 4, at the age of 66 years. In his passing the Class loses one of its foremost and best liked members and Technology a staunch supporter and most devoted Alumnus. Six feet, two inches, and a handsome, genial lad, Wright Fabyan inevitably became prominent in undergraduate class affairs from his freshman year. His activity and interest were maintained after graduation. It was while he was president, and a hard-working president, too, that the Class held its memorable, three-day, 30th anniversary celebration at Wianno on Cape Cod, where 71 men, accompanied by their ladies, gathered to make this the greatest of all our class reunions. He was the first man to be married after the Class was graduated — two days after, in fact — and of his five children the eldest, Eleanor (Mrs. Theodore Frothingham, Jr.), was the charming '93 class baby to whom, as to her father, so much of the pleasure of that 30th reunion was due.

Wright Fabyan was born in Brookline, Mass., on March 16, 1871, and attended the public schools there until he entered Technology in 1889. Following his marriage on June 1, 1893, to Miss Edith Westcott, a descendant of two distinguished New England families, Mr. and Mrs. Fabyan spent a year abroad. Upon their return to Boston Fabyan entered the employ of his father's dry-goods commission firm of Bliss, Fabyan and Company, of which he became a partner and in which his lifelong business career was centered. When that firm was reorganized a few years ago, he retired from active business. During his partnership, however, he was a director or an officer of most of the companies affiliated with that concern. He was associated also with the old National Union Bank, was a director of the New England Trust Company, and a trustee of the Free Hospital for Women. For some years he served as president of the Algonquin Club of Boston where on several occasions the Class partook of his hospitality. He was a member of the St. Anthony clubs of New York and Boston and of the Union Club of Boston.

Long an enthusiastic yachtsman, Fabyan spent many summers in Manchester, Mass., where he was treasurer of the Manchester Yacht Club. He held membership as well in the Eastern Yacht and New York Yacht clubs. He raced successfully at Manchester with his *Q* boat *Eleanor*, and won many championships. In 1906 and 1907 he won the Lipton Cup. In later years, however, he forsook the North Shore for his summer home at Buzzards Bay. Those who attended the 30th reunion will recall its hospitable charm.

Over a long period Fabyan was actively interested in Technology affairs, and in many ways — often unobtrusively — he served to advance the interests of his Alma Mater and of the student body. He served for five years as an alumni term member of the Corporation, and in 1925, during the presidency of Dr. Stratton, he was elected a life member of that body.

Five children were born to Wright and Edith Westcott Fabyan: Eleanor, now Mrs. Theodore Frothingham, Jr., of Boston; George Francis, who died in his youth; Everett Westcott; Edith, now Mrs. William A. Read of New York; and Francis Wright Fabyan, Jr. Mrs. Fabyan died in 1928, after a long illness. In 1930 he married Miss Annabel Park of Boston. — At a simple but impressive service at Forest Hills Chapel in Boston on September 7, amid a profusion of flowers, the last tribute was paid to the memory of Francis Wright Fabyan.

In the observance of the 44th anniversary of the Class, 22 men, 11 of them accompanied by their wives, assembled at Riverbank Court, Cambridge, at noon on Saturday, June 5. After a luncheon at the hotel the party motored to Lone Tree Farm at Hamilton, Mass., the country estate of our Class President, where throughout the afternoon the party enjoyed the hospitality of Mr. and Mrs. William S. Forbes, amid the charming surroundings of their attractive home. At the annual business meeting President Forbes, after 10 years in the presidency, which included both the 35th and the 40th reunions, begged to be relieved from these duties. With deep appreciation of his long and loyal service, the Class acceded to his wishes and the following officers were chosen: President, Frederick N. Dillon; Vice-Presidents, Ariel B. Edwards and Harry M. Latham; Secretaries, Frederic H. Fay and George B. Glidden; Class Representative on Alumni Council, Charles M. Spofford.

Those attending the reunion were James A. Emery, Mrs. Emery, and Frank G. Ashton from New York; Walter H. Norris and Mrs. Norris from Portland, Maine; Ariel B. Edwards, Pawtucket, R.I.; and of Massachusetts residents in addition to Mr. and Mrs. Forbes, our host and hostess, Maurice B. Biscoe, Mrs. Biscoe, Stephen A. Breed, Herbert N. Dawes, Mrs. Dawes, Fred N. Dillon, Frederic H. Fay, Mrs. Fay, George B. Glidden, Mrs. Glidden, Albert L. Kendall, Frederic H. Keyes, William F. Lamb, Mrs. Lamb, Harry M. Latham, Mrs. Latham, Edmund I. Leeds, Frederic

F. Low, Mrs. Low, Edward Page, Edward S. Page, Mrs. Page, Robert D. Reynolds, Charles M. Spofford, Mrs. Spofford, and John F. Tomfohrde. — FREDERIC H. FAY, *Secretary*, 11 Beacon Street, Boston, Mass. GEORGE B. GLIDDEN, *Assistant Secretary*, 551 Tremont Street, Boston, Mass.

1894

The summer has been extremely busy for your Secretary, and on this account he has not found the opportunity to circularize the Class for news, as has sometimes been the case. There are, however, a few items which are of especial interest, but unfortunately two or three of them concern the loss of our classmates. Clarence D. Pollock, who had been for many years a distinguished consulting engineer in New York City with offices in the Park Row Building, died on April 30. We all remember Pollock as a fine fellow student in the Department of Civil Engineering. Upon graduation he went at once into practical work and was active in the development of the new New York water supply. Later he became an expert in highways and for many years had charge of many contracts for new streets and street surfacing in the city of New York and also did a great deal of consulting work elsewhere. He was a special lecturer in the Department of Civil Engineering at the Institute for a number of years and in this way maintained at least an annual contact with his Alma Mater. He held many commissions of responsibility and trust in the American Society of Civil Engineers. In fact he may be regarded as the type of graduate who meets the responsibilities of professional work and of citizenship with high ideals and performance of unusual character. He will be very greatly missed by a large circle of friends, both among Technology men and in his profession. He is survived only by his wife, as he had no children.

Another death which occurred at very nearly the same time is that of John S. Pechin of Grey Ledge Farm at Buchanan, Va., who died on April 21. Notice of his death was received from his daughter on the ninth of July. All of us who entered in 1890 as members of '94 will remember Jack Pechin from Cleveland for he was an extremely affable, fun-loving member of the Class, early evinced through activity in its affairs. As a student he did not take the responsibilities of life as seriously as some and on this account, and not for any lack of ability, he delayed the completion of his work until he finally received his degree in 1897. Not having graduated with the Class he did not later take so much interest in its affairs as we had hoped and never attended any of our class reunions. After graduation he was engaged in engineering work for a year or two, after which he established himself in Virginia as a gentleman-farmer and here he spent the remainder of his life finding special pleasure in the occupations of stock raising, hunting, and so on, and in travel. Unfortunately, the Secretary had had no contact with him for a number of years, but it is certain that we shall

Which Class Will Have the Largest Percentage of Its Membership Contributing to the Alumni Fund?

1894 Continued

all remember this cheerful and capable classmate and shall feel very great regret at his passing.

The third death in our ranks occurred on May 29 when Frank H. Holden, well-known architect of New York, died of pneumonia at his home, 327 Lexington Avenue, at the age of 67. Frank Holden was born in Chicago and entered the Institute in 1890 as a special student in architecture and followed his work here by three years at the École des Beaux Arts, Paris. He married Agnes Johnson, daughter of Robert Underwood Johnson, the poet and former ambassador to Italy and director of the Hall of Fame. When Holden returned from study in Paris under Marcel Lambert, he practiced architecture for a short time in Aurora, Ill., and then came to New York, where he was associated with several offices, among them Carrere and Hastings and Heins and LaFarge. Later he established with Frank H. Bosworth the firm of Bosworth and Holden. When Mr. Bosworth withdrew to become head of the department of architecture at Cornell University, Holden became the director of architecture for Hoggson Brothers. After the War he joined Kohn and Butler as an associate and, after spending a good deal of time on the R. H. Macy and Company store, he joined the Macy organization as director of interior design. Later he returned to private practice, specializing in store design. A number of the well-known stores in New York were the results of his careful design. In addition to being an architect of note, Holden was recognized as being one of the leading amateur violinists in New York City and had been a member of at least three important quartets in that city. He is survived by his widow and a daughter, Anne, now Mrs. John Arbuckle. His death, which will be greatly regretted by his classmates, calls attention to the fact that many of the students in architecture in our Class reached positions of high standing in their profession.

Ben Holden, who was a brother of Frank and also a member of the Class, pursued practically the same course, although so far as can be learned, the brothers were never associated in business. Ben is now an architect in New York City with an address at 418 West 20th Street.

The Secretary had the pleasure of dining with Price at the Copley Plaza Hotel on September 13. Price had flown from his ranch in Santa Barbara County, Calif., to attend the wedding of his goddaughter, the daughter of F. W. Fuller '96, and after a few days in New York and New England was sailing for his winter home in Paris. A meeting with Price is always an event of great significance to the Secretary. From the earliest days of freshman year when our names were next each other in the alphabetical list of students, there has been a very warm bond of friendship which has strengthened with the years, despite long periods when there were neither letters nor personal contact. Price is ever the same in his loyalty to his friends, and it is a treat to have the op-

portunity to spend the evening with him. Within the past year he has covered the continent of Africa by airplane and has thus completed one of his early desires — that of visiting and studying all of the continents of the world. The many interesting experiences which he has had would make a story of most thrilling character, and it is hoped that he may sometime thrust aside his modesty and write his observations as a world traveler. The meeting with Price was especially happy in view of the fact that the Secretary had tried to contact him in Paris in early August and received no reply to notes or telephone communication. To have a letter asking for an evening together so promptly afterward was most rewarding.

The Secretary's summer has been very active, first in making the preparations for a conference on food technology which was held at the Institute, September 14 to 17, and which involved a rather brief trip to Europe to contact guest speakers who were coming from Germany, France, and England. In three weeks on the other side of the Atlantic, he spent five days in France, one in Germany, five in Switzerland, and ten in the British Isles. While in Paris a few hasty visits to the Exposition gave a rather inadequate idea of this large undertaking, and he was especially impressed by the modern character of the architecture as contrasted with the buildings of previous world's fairs which he had seen. Doubtless other members of the Class may have visited the Exposition and, as there has been no lack of publicity and pictures pertaining to it, any extended description is unnecessary here.

At the end of August the final preparations for the Food Technology Conference were made and a meeting at which possibly 100 people were expected turned out to be a large gathering with nearly 600 in attendance, during the three days in which meetings were held at the Institute. — SAMUEL C. PRESCOTT, *Secretary*, Room 10-405, M.I.T., Cambridge, Mass.

1895

An announcement was received of the formal opening and dedication of the John H. Gregory Sanitary and Municipal Engineering Reference Library at Columbus, Ohio, Friday, May 7. This professional library was presented to the city of Columbus at his request, as an expression of appreciation of the confidence placed in him during his 22 years of service with the city. The mayor and other city officials paid sincere tribute to the ability and accomplishments of John Gregory.

On Thursday, April 8, George A. Rockwell, well-known lawyer, died suddenly at his office in Boston. He was born in Roxbury, son of the late Colonel and Mrs. Horace T. Rockwell, and is survived by two sisters, Miss Maude Rockwell and Mrs. William J. Walton, both of Dorchester, Mass. After leaving Technology, George was graduated from the Boston University Law School. He was a member of the Boston Bar Association, the bars of the Massachusetts Supreme

Judicial Court and the United States Circuit Court of Appeals. He was a trustee of the Union Savings Bank of Boston and vice-president of the Rockwell and Churchill Press, Congress Street, Boston. He was a member of the executive committee of the Home For Destitute Catholic Children and was a charter member and former treasurer of the Catholic Alumni Sodality. He was buried in Holyhood Cemetery, Brookline, Mass.

Word was received from his brother that William J. Batchelder died in San Diego, Calif., February 26. Billy had been with our Class until 1894, when he left Technology and settled in business in Boston. Owing to bad health he was compelled to go West, where he remained in Colorado and California for the past 30 years. He became affiliated with the Class of 1896. For details see '96 notes next month.

A word about the June reunion. Your Secretary, being carefree, attended all the events from soup to nuts and had a most interesting and enjoyable time. Anyone who can spare the time — forgetting the expense, as it is nominal — will much enjoy these yearly reunions. They are becoming more popular and worth while each year. Tommy Booth, Henry Jackson, Frank Miller, Fred Richards, Tommy Wiggin and his son, and Yoder attended the banquet. Keep in mind our 45th class reunion in 1940.

In May the Building Arts held a series of exhibits in their rooms in the Edison Building, 182 Tremont Street, Boston. One exhibit showed a varied selection from work executed by the firm of Adden, Parker, Clinch and Crimp, architects. Residences costing from \$4,000 to \$125,000, as well as miscellaneous public buildings, were shown. Our classmate Winthrop D. Parker is a member of this firm which he organized in 1905, then known as Adden and Parker. — John D. Moore was recently appointed by Governor Herbert H. Lehman of New York to the State Labor Relations Board. — Mr. and Mrs. Thomas B. Booth enjoyed a trip of seven weeks through the British Isles, leaving Boston, June 12. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass. JOHN H. GARDINER, *Assistant Secretary*, Graybar Electric Company, 420 Lexington Avenue, New York, N. Y.

1896

The Secretary has to report that he was on the job at M.I.T. through the summer up to September. As much time as possible was spent in preparation of a revised edition of his "Text Book on Ore Dressing." In September he made an auto trip to Canada for a change and rest, and the trip included a week's tour of all of the important mines in northern Ontario, where the Secretary noted latest developments in milling practice and also made it a point to contact Alumni in that district. He believes that he saw every Alumnus in the places that he visited, including W. R. Dodge '99 at Timmins, Ontario; W. L. Stevens '00, W. B. Boggs '04, and George Miller '09 at Noranda, Quebec; Frank J. Eager '02 and M. L. Carey '23 at Sudbury,

1896 Continued

Ontario. A particularly pleasant feature of the trip was home hospitality extended by Mrs. Eager at Sudbury and Mrs. Boggs at Noranda. A traveler always welcomes such opportunities for a change from the regular routine of traveling and hotel fare. In the course of a week the Secretary covered 2,000 miles in northern Ontario, and, considering the time occupied in visiting plants, this meant that his days were very full from 7:00 A.M. until along toward midnight.

Rockwell reports that he made his annual fall trip to the family in Tennessee, and he also spent a week at Coburg, Ontario, in September, visiting members of his family. — Jim Melliush came to Boston twice during the summer and on one of these trips was accompanied by Mrs. Melliush. They stayed with Rockwell, and John reports Mrs. Melliush a most charming South American lady. — Mark Allen's boy has completed his studies at the Babson Institute in Wellesley and returned to Detroit to enter his father's business.

Bakenhus has not reported on the line of work that he will follow after his transfer to the retired list on October 1, but he surely will continue in full activity. On June 10 he was one of the reviewing officers of the Saratoga division of the annual Sunday school parade in Brooklyn. He and Mrs. Bakenhus attended the luncheon preceding the parade, and subsequent to the luncheon and before the parade he made a quick trip to give very brief addresses to some of the Sunday schools. In July he attended the meeting of the American Society of Civil Engineers in Ann Arbor, Mich., where he was representative of the Metropolitan New York section. He tried to contact with Eddie Bragg in Ann Arbor, but apparently Bragg was away in the East on his vacation. He stopped over in Detroit and was able to get in touch with Mark Allen over the telephone. In August he fulfilled a long cherished idea of climbing Whiteface in the Adirondacks. He and Newell had tried to do this, way back in 1893, when they were attending the summer civil engineering camp on Lake Angus, but the distance was too great for them to accomplish it in the time available.

An event which occurred on July 8 will be of interest to '96 men, and incidentally it was about 100% Technology. On that date John Gurney Callan, Jr., '34, the son of our classmate, was married in Nantucket to Catherine Carr Jones, the daughter of William F. Jones '09. Gurney Callan is readjusting his life after the loss of Mrs. Callan, and his daughter wrote a note of appreciation for the flowers sent by the Class.

The Class will have the reflected glory of the honor conferred upon Arthur Baldwin: During the summer he was made Officier de Légion d'Honneur of France. Report of this was transmitted by Will Coolidge, but Will failed to tell anything about his own doings of late. — John Tilley is still holding his job, but he has moved his domicile from Larchmont, and his present address is 42-20 Kissena

Boulevard, Apartment C-1, Flushing, L.I., where the latchstring is always out for '96. He was very busy this summer with the jobs that had come to his firm.

— Fred Damon made a trip to Newfoundland during the summer to meet an engagement with a fish, but the fish failed to turn up, the reason being, as Fred learned, that the season was a little late. Next year he plans to go earlier. He and Rockwell have been getting in their usual golf games during the summer.

Clark Holbrook with Mrs. Holbrook have returned from their European trip of two and a half months, which he says was one grand time. — Our classmate William Henry Whitten, who was with the Westinghouse Company in Pittsburgh for many years in their patent department but is now retired, also made a European trip during the past summer. He has returned to the home of his boyhood in Jamaica Plain, Mass. — Billy Anderson is now in line to join the grandfather class as the result of the marriage of his son William on June 19, in Cincinnati, to Miss Anne Lea Ditmars. — The Secretary received a letter from Henry Waterman in Yarmouth, Nova Scotia, expressing his regret that he was unable to attend the Alumni Day celebration at M.I.T. in June. He made the suggestion that instead of five-year reunions the Class might hold a reunion every year and have it come around Thanksgiving time, or possibly a little earlier, which might be a more convenient time for some of the fellows who are not able to get away in June.

The Class will sympathize with Minor Jameson in the loss of his wife, whose death occurred on June 24, in Chevy Chase, Md. During the summer, Minor was able to spend some time vacationing at Sudbury, Vt. — H. C. Lythgoe has again gone into print, having written an article on "The Coloring of Food, Its Use and Abuse," which appeared in the *Scientific Monthly* for August. — Our classmate Ada M. Fitts, on the occasion of her retirement from the office of director of the special-class department of the Boston public schools after 46 years of service, was given a testimonial dinner at the Copley Plaza Hotel on May 7. The dinner was attended by over 500 teachers. Among the numerous speakers was Mary C. Mellyn '02. A pleasing feature was the presentation to Miss Fitts of a purse and a memory book, on each page of which was inscribed a tribute from every special teacher in the service and also former teachers who had served under her. Miss Fitts was appointed to teach in the Boston schools on September 9, 1891, and was transferred to teach the fifth special class established in 1902. She became director in 1912, which position she held until retirement. Her hobbies have been travel and settlement work, and in connection with the latter she has been a resident of Hull House, Chicago, and the Denison House in Boston. — Charlie Lawrence is back in harness again with the Auditorium Conditioning Corporation at 17 East 42d Street in New York City. He attended the architects convention in

Boston the first week of June and the Secretary saw him twice. He was sorry not to be able to come over again for Alumni Day the following week.

Alumni Day on Monday, June 7, brought out a good delegation of classmates. One grand surprise was the appearance of Jack Eynon, who had not been seen for many years, but who fortunately was on a trip East from his home in California and was able to attend and see the changes that have come to M.I.T. Another surprise almost as great was the appearance of Bill Dorrance, accompanied by Mrs. Dorrance. It may be that Mrs. Dorrance was really the prime factor in getting Bill to Cambridge at that time. Lloyd Wayne came on from Indianapolis, but that really was no surprise, because he can always be counted on to be present when there is something doing. Con Young was in evidence and had some new and interesting stories of his experiences. The complete list of those who attended one or more of the functions of the day is as follows: Dave Beaman and son, Bill Dorrance and wife, Jim Driscoll, Jack Eynon, Hattie Gates, Henry Grush and son, Henry and Will Hedge, Henry Jackson, Joe Knight, Gene Laws and wife, C. E. Locke, Elmer Robinson, John Rockwell, Charlie Tucker and wife, Lloyd Wayne, and Conrad Young. Only the two Hedges were unable to appear at the noon-day luncheon; at the banquet in the evening the only two who were missed were Laws and Tucker. These Alumni Day affairs bid fair to develop year by year as a means for the Class to get together, thus bridging the gap between the big five-year reunions.

Bradley Stoughton was around the Institute on June 29 and 30, attending the convention of the Society for the Promotion of Engineering Education, and the Secretary saw quite a bit of him. He reported that as his work as dean of metallurgy at Lehigh University took most of his time he had not been able to do his teaching so satisfactorily as in the past, and there was practically no time left for outside affairs. His son, Philip '24, is running a little chemical organization of his own in New York City. — Gene Hultman, with Mrs. Hultman, varied his usual vacation program this year and went on a Raymond-Whitcomb tour of Europe on the S.S. *Paris* of the French Line, leaving Boston on June 26 and returning on August 4. This cruise included the Azores, Brittany, Ireland, Wales, Scotland, Shetland Islands, Norway, Sweden (including some of the fiords), Denmark, and Holland. He went also to Hamburg, where he made a special study of the Alster Basin to get ideas for the improvement of the Charles River Basin. At Southampton they transferred to the S.S. *Normandie*, and were on this boat when it broke the four-day transatlantic record.

The Class has lost two of its members, William J. Batchelder, who died on February 26, and Joe Driscoll, who passed away on May 26. In order that the class notes this month may not be unduly long the obituaries of these two men will not

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

1896 Continued

appear until next month. — CHARLES E. LOCKE, *Secretary*, Room 8-109, M.I.T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

1897

Life begins at 40, and for our Class it began at the 40th reunion held at East Bay Lodge, Osterville, on Cape Cod, June 4, 5, and 6. There were 39 members of the Class gathered for the dinner meeting. Irene du Pont of Wilmington, Del., whose interest in the reunion was responsible in a large measure for its success, gathered in the 40th for the party. She was Miss Margaret Waterman, promptly adopted as class mascot and honorary member. So there were 40 years that had passed, 40 to join in the festivities of that Saturday night, and 40 who pledged themselves to keep it up as long as they could hobble to future annual gatherings of the Class — and Margaret has been supplied with a yellow and black annual pass to the '97 reunions.

There were a few 60-year-oldsters still able to play tennis, a larger squad of golf players, and a few — Baker, Cowles, and Howland — who could still sing. It was Du Pont who led the field of golfers and took away the grand prize, a nonleaking shaker. His score was 97; his one-putt greens were seven; and his automobile numbers are 1897. John P. Ilsley won second prize with a score of 98, and the kickers handicap prizes went to Frank Mansfield and Frank Preston, while John Hastings Howland took home the booby prize. Stanley A. Hooker, who won the prize for having come the longest distance to the reunion, won also tennis honors, sharing the prize with Henry W. Ballou.

The class chairman presided, very ably assisted by the executive committee who deserve much credit for their coöperation and unflinching efforts. When the roll was called by Courses, the civil engineers led all the rest. Course I had 12 members present; Course X, the chemical engineers, counted six; and Courses II and VI each had five survivors in the gathering. During the evening Jere Daniell provided some inside information about the Spanish civil war, and Irene du Pont pointed out what must be done to stop the United States from joining the lands of the dictator. "We have taken our freedom for granted and are now throwing the whole thing out of the window," he said. "It looks as if government ownership of industry is soon to be in order. I say that we are right at the last ditch, and I think we're too late to avoid it." When personal histories were told, Irene du Pont led the way with one wife, eight children, and 13 grandchildren accounted for, while the Class as a whole had to take it for falling below the average of 2.5 children for each member, necessary to keep the race alive and to feed the freshman hopper at Tech without a decline.

Among those present at the reunion were James T. Baker, Brooklyn, N. Y.; Henry W. Ballou, Providence, R.I.; William Binley, Jr., Quincy; Percy

Blood, Niagara Falls, N.Y.; Charles W. Bradlee, Boston; Charles B. Breed, Cambridge; Warren D. Brown, New York City; Louis F. Buff, Jamaica Plain; Walter F. Buck, Boston; John A. Collins, Jr., Lawrence; Luzerne S. Cowles, Brookline; Jere R. Daniell, New London, Conn.; Arthur Elson, Boston; Irene du Pont, Wilmington, Del.; Charles H. Eames, Billerica; Jonathan M. Gilmore, Waltham; Charles L. Hammond, Malden; Stanley A. Hooker, Cincinnati, Ohio; Arthur T. Hopkins, Wellfleet; Benjamin A. Howes, Washington, D. C.; John H. Howland, New York City; Chester D. Hubbard, Cleveland; Walter Humphreys, Brookline; John P. Ilsley, Milton; George S. Lawler, Boston; Robert S. Lunt, Newtonville; Frank E. Mansfield, Jamaica Plain; Hugh K. Moore, York Harbor, Maine; Albert P. Norris, Cambridge; Edwin R. Olin, Braintree; Charles H. Pope, New York City; Gilbert H. Pratt, Boston; Frank H. Preston, Springfield; Walter B. Russell, Jamaica Plain; Ezekiel C. Sargent, Quincy; Harry F. Sawtelle, North Scituate; Edward F. Strong, Buffalo; Rodolphus A. Swan, New Bedford; George R. Wadleigh, New York City; Thomas R. Weymouth, New York City; Henry E. Worcester, Boston.

We will all regret to hear of the death of Sheldon L. Howard on March 9 last. At the time of his death he was chief of the division of vital statistics in the State Department of Public Health at Springfield, Ill. He had been employed in this department for the past 20 years. He had been in poor health for the past two years and seriously ill since December. He leaves a wife and one daughter, Mary Sutton Howard. — JOHN A. COLLINS, Jr., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 60 State Street, Boston, Mass.

1898

Robert S. DeGolyer was in Boston attending the convention of architects in the spring and he appeared at the '98 table at the dinner on Alumni Day, June 7. This was the first time we had seen him in a very long time. He came direct from Chicago, where his address is Robert S. DeGolyer Company, 307 North Michigan Avenue.

Karl Waterson has sent us a bulletin issued by the information department of the American Telephone and Telegraph Company, from which we copy: "Karl W. Waterson was elected a Vice President of the company at today's meeting. Mr. Waterson was born at Chelsea, Vt., on March 9, 1876, the son of Charles A. and Mary E. (Colby) Waterson. He was graduated from the Lowell (Massachusetts) High School, and, in 1898, from Massachusetts Institute of Technology, with the degree of Bachelor of Science in Electrical Engineering.

"On June 13, 1898, he entered the service of the Bell System at Boston. In September, 1901, he was placed in charge of Central Office Engineering and, in January of 1905, of Traffic Engineering. In 1907, in which year Bell System head-

quarters were transferred to New York, Mr. Waterson was made Assistant Vice President in charge of Plant Operation, Traffic and General Operating Results in the Department of Operation and Engineering.

"Mr. Waterson is a member of the University, Technology, and Railroad-Machinery Clubs of New York City and of the Essex County Country Club and the Braidburn Country Club in New Jersey. He is a Fellow of the A.I.E.E. He was married on November 29, 1928, to Anne Darling of Chelsea, Vt., and has a daughter, Anne Elizabeth, and a son, Karl W., Jr."

In his letter, Waterson comments as follows: "To wind up in personnel relations after a start in engineering involves a bit of wandering, but it only goes to show that the initial direction is not a very good indication of the final course. The requirements of the new job are such that there is no chance for me to attend this year's Commencement, but as next year represents our 40th anniversary, I shall hope to see you all again at that time. Before then I hope to have the new job organized."

Harold W. Jones, Colonel in the Medical Corps, United States Army, was designated by the President as chairman of the delegation of the United States to the International Congress of Military Medicine, held at Bucharest, Rumania, June 2 to 10. Colonel Jones, accompanied by Mrs. Jones, sailed from New York for Le Havre on the S.S. *Manhattan* on May 19. While in Europe he planned also to represent the American Red Cross at the meeting of the international committee of the Red Cross at Geneva, and to attend the International Conference on Air Relief in Budapest. He also represented the United States Army at the 200th anniversary celebration of the founding of the University of Göttingen, Germany, on June 25. He returned to the United States in the latter part of July.

Paul Johnson writes: "I am sending you herewith a copy of my itinerary and the first issue of my *Travelletter* which will keep you posted as to my whereabouts during the summer. I had the very great pleasure of meeting Lester Gardner here last Sunday, the 9th, and had him up to the house only long enough to look around the place. Sorry he had to leave so soon. The inclosed clipping from the Pasadena *Star News* of the 11th is self-explanatory: 'Major Lester D. Gardner of New York, secretary of the American Institute of Aeronautical Sciences, here to confer with Pasadena scientists, was a passenger yesterday aboard the China Clipper that Glenn L. Martin, pioneer airplane designer, flew from Newport Beach to Avalon, repeating the historic flight he made 25 years ago in another plane of his own design.

"Major Gardner was here to confer with Dr. Clark B. Millikan and other scientists at the California Institute of Technology, and visited Paul Franklin Johnson, 3100 Maiden Lane, Altadena, a classmate at the Massachusetts Institute of Technology. An aviation editor of

1898 Continued

note, Major Gardner has flown on passenger lines throughout the United States and Europe and holds the opinion that the new American sleeper planes are the most comfortable way to travel that he has ever experienced. The visitor is chairman on arrangements for the 40th anniversary reunion of the M.I.T. Class of '98, and Mr. Johnson plans to attend. The event is slated for June, 1938, in Boston."

Here is part of the *Travelletter*: "Yes, we (Hannah and I) are going to Europe at last, and it is also the first time for us, except when we went around the world ten years ago, we skirted the Mediterranean shores of Europe. We have had a vague notion of sometime going to Europe, but it took a combination of events for the notion to take root and start growing. About a year ago, I received word that the Ancient and Honorable Artillery Company of Massachusetts, of which I am a life member by right of descent, proposed to attend in a body the celebration in London of the Honorable Artillery Company of London in honor of its 400th anniversary. That appealed to me at once as an opportunity to see England under better than ordinary conditions. Then Rotary International, of which I am a member of the Pasadena Club, decided to hold its convention this year in Nice, France. As plans matured, I found I would be able to take in both events and some of the tours the Ancients and Rotarians proposed to take. Besides, I want to see England and Scotland where my ancestors came from about 300 years ago, and Hannah wants to see Wales where hers came from.

"So we have been working many months to clear decks and get our affairs in shape so that we could leave. My job as Commodore of Balboa Yacht Club ended in January. I have taken the yacht *Seyelyn II* to Seattle where she will be chartered for Alaskan cruises during the summer. That you may know where we expect to be and how to reach us by mail, cable, and radio, I append a copy of our itinerary deluxe. Good-by, everybody."

The foregoing notes were written last June. Returning from vacation the Secretary finds that a few clippings and notes have accumulated. A post card from Paul Johnson, written September 7, says he lands tomorrow from the S.S. *Queen Mary*. His *Travelletters* arrived regularly during the summer and tell of his experiences in England, France, the North Cape, Norway, and at the meetings of the Ancient and Honorable Artillery Company and the International Rotary. He and his wife have a remarkable capacity of making traveling worth while, not only of appreciating it themselves but of passing on the scenes and incidents for the enjoyment of their friends. — A card from Charlie Hurter shows that he and his wife have been visiting Iceland, the North Cape, Norwegian fiords, Esthonia, Leningrad, Finland, and Sweden.

Changed addresses are: Walter A. Cleaveland, 30 Fayette Street, Boston; Howell Fisher, Gibson Island, Md.; Ralph Harris, 1180 South Oak Knoll Avenue, Pasadena, Calif.; Joseph J.

Moebs, 54 Hunter Avenue, Newport, R.I. — We have the notice of the marriage of Harold W. Jones to Mrs. Mary Morrison Camper of Charlotte, N.C., on May 1. We commented in a previous issue that he was about to be married.

Roger Babson is never out of the public eye. His recent address in Boston on the business, and particularly the stock market, trends has received a great deal of attention, and great comfort is felt by many that he does not expect a severe depression in the near future. Commentators are pointing out nowadays that it was he alone who foresaw and predicted the 1929 crash. We clip a characteristic paragraph from some of Roger's comments on Walter Pitkin's book, "Careers After Forty": "Speaking of public libraries, I wonder why those who are out of a job do not spend more time at these wonderful reservoirs of knowledge. At your public library you may brush up on almost any line of work so as to become an expert thereon. Furthermore, sometimes when I am seeking some faithful young person for my organization, I go to a public library and get acquainted with some of those who are studying there instead of wasting their time at the movies. You secure a much better worker from the reading room of a public library than from any employment agency."

We report the deaths of Arthur T. Davis, 396 Ocean Avenue, Portland, Maine, July 31; Lothrop D. Higgins, 5 Harmony Street, Danbury, Conn., March 6; Edward S. Wiard, 3200 South Acoma Street, Englewood, Colo., October 14. — Charlie Locke, the Alumni Secretary, furnishes us the following report: Wiard followed the profession of mining engineering continuously after his graduation and made Denver his headquarters. After obtaining a few years' practical experience, he spent the remainder of his years as a consulting engineer and research man. He was the author of a book on ore dressing. For the last ten years he had gotten away from mining, and was doing research work for a group of medical doctors perfecting serums. He had quite an elaborate laboratory to conduct his experiments and was apparently meeting with some success, but, unfortunately, on account of the fear that others might in some way learn of his progress, he left no decipherable notes on his work; his formulas are lost and his ten years of work died with him. — ARTHUR A. BLANCHARD, Secretary, Room 4-154, M.I.T., Cambridge, Mass.

1900

About the usual number of this Class attended the Alumni Dinner last June. Around our table were Draper, Fitch, Ziegler, Ellis, Westcoat, Russell, Smith, Bugbee, Bowditch, Perry, and Jackson. — The Boston *Herald* of April 18 had the following notice: "Mr. and Mrs. James Alfred Patch (Harriet Osborn Bates), who were married Friday evening in the chapel of the Andover-Newton Theological School in Newton Centre, will reside in Carlisle on their return from their wedding trip. The Rev. L. G. van Leeuwen,

pastor of the First Baptist Church of Stoneham, officiated at the six-o'clock ceremony, which was attended by members of the immediate families. Mrs. Patch is the daughter of Mr. and Mrs. Henry Dodge Bates of Carlisle, and Mr. Patch, who formerly resided in Stoneham, attended the M.I.T."

Notice has been received of the death, about a year ago, of John Campbell, III, of Harrisburg, Pa. — "Mrs. Elizabeth Field Batcheller, wife of Professor James H. Batcheller, former faculty member of M.I.T., died May 11 at her home in Corvallis, Ore., where Mr. and Mrs. Batcheller made their home since 1926 when Mr. Batcheller became professor of mining at the Oregon State College. Mrs. Batcheller was born in 1881, a daughter of Mr. and Mrs. William De Yongh Field of Weston [Mass.]. She attended the Winsor School of Boston and made her debut here in 1900. Besides her parents and her husband, Mrs. Batcheller leaves four sons, Ensign Edgar H. Batcheller, U.S.N., of Cambridge, C. Robin Batcheller of New York, Oliver A. Batcheller of Corvallis, Ore., and James H. Batcheller, Jr., of Annapolis Naval Academy; and a sister, Mrs. Edwards W. Herman of Lincoln."

Word has been received from E. G. Farrand '21, Secretary of the Technology Club of Chicago, of the death of Frank D. Chase on July 23. Frank's life work is so nationally known that mention of it here seems superfluous, but his last great achievement as administrator of the Civil Works Administration of Illinois, by which a quarter of a million men were employed, is a fitting climax to a great career. He will be missed by all of us. — C. BURTON COTTING, Secretary, 111 Devonshire Street, Boston, Mass.

1901

In the annual letter which was mailed, the latter part of September, to all members of the Class for whom we have good addresses, special mention was made of the solidarity committee which was appointed by our honored Class President, Lammot du Pont, at the time of our 35th reunion at Oyster Harbors. Your Secretary promised that if the members of the Class would promptly cooperate by sending in a notation on the class data sheet of just how they wished their names, addresses, and business affiliations to show in the proposed alphabetical and geographical lists of the members of the Class, an endeavor would be made to complete such lists for the printer and have them ready for mailing sometime before the end of the year. As noted in the annual letter, we anticipate that the actual printing will be done without charge to the Class, through the generosity of our esteemed classmate, Asher Weil, who is the proprietor of the Electro-Sun Company, Inc., of 4624 Grand Central Building, New York City.

If, therefore, you have not returned your class data sheets, please do so at once so that the necessary information may be received for the classification lists. In addition be as generous as you can with

Alumni Are Raising \$1,650,000 for a Technology Gymnasium and Other Recreational Facilities. If You Have Not Subscribed, Increase Your Class Total Now.

1901 Continued

other information regarding any interesting events which have been happening to you either in a business or social way so that such news items (unless prohibited by the writer) may be properly disseminated in future editions of *The Review*. Please also include any possible addresses on the list designated "Address Wanted." Don't forget to send in our modest class dues, for although the class finances are in fairly good condition at present, we need at least as good a response as was made last year in order to meet our moderate responsibilities. . . . At the annual election of the Alumni Association, our Class was honored through the fact that Ed Davis, who has been associated for many years with the Scovill Manufacturing Company of Waterbury, Conn., was elected a member of the executive committee, and Al Sulzer, Vice-President of the Eastman Kodak Company of Rochester, N. Y., was designated for term membership on the Corporation. In addition, Ralph Robinson, who for many years has been associated with the General Electric Company at Schenectady, N. Y., barely missed being elected a member of the national nominating committee for district Number 4. When the time comes for the next election, therefore, we should not be backward in suggesting the names of eligible members of our Class, so that 1901 may continue to retain its proper place in the affairs of the Alumni Association and the Corporation.

At the time of the small class get-together in New York on May 12, Harry Allen mentioned that he had recently heard a broadcast by Lammot du Pont, and on making inquiry we were very much interested to find that the talk was part of the program of the Cavalcade of America Hour sponsored by the E. I. du Pont de Nemours and Company. The broadcast was short but interesting, and we hope that the radio public may be favored with future talks of the same kind. — Matt Brush, former head of the American International Corporation and director in innumerable corporations, whose poor health prevented his attendance at the 35th reunion, was reported last spring to be so much better that he had assumed another directorship. We trust this will mean that in due course another corporation will be showing some profit. — Jack Boyle, who is a patent attorney in Washington, D. C., has sent us a copy of the *Journal* of the Patent Office Society which included a very interesting article by his good self, entitled "Patents and Prosperity." The general intent of the article was to indicate that there is a definite relationship between the cycles of the granting of patents and prosperity. With the article was included an interesting graph which seemed to show with reasonable conclusiveness that a definite recovery in the patent business is now in order and from that we are led to hope that the cycle of prosperity is also, on the average, to continue on the up trend.

During my vacation at Gloucester, Mass., I had the pleasure of meeting Arthur Davis, who is actively carrying

on the large mail-order fish business founded by his father and carried on under the name of the Frank E. Davis Fish Company. Arthur said that business had not been quite so good for several years but he hoped for improvement, and from my own personal enjoyment of the delicious fish, lobster, and so on, sent out by his concern, I feel that business will soon be improving and that we may surely have the pleasure of seeing Arthur at our next reunion. — Sometime last spring a rather belated class data sheet was received from G. Everett Marsh, who briefly stated that he was now director of the chemical and physical laboratories, Institute of Criminal Science, 630 F Street, Northeast, Washington, D. C.

Since the last class notes were published in July, notices have been received of the deaths of two of our classmates, namely, Frank D. Chase and William A. Niles. Frank Chase was really a member of the Class of 1900, but he liked the Institute and the Class of 1901 so much that he carried on with the latter even though during his later years he chose to be considered a member of 1900. Phil Moore, who sent me the notice of Frank's death, stated that Frank had been very active in Tech affairs in Chicago, as well as one of the leading industrial architects of the country, and that he had had the pleasure of seeing him frequently at luncheon at the University Club in Chicago. The date of his death was July 23. — Notice relative to William A. Niles was received from the Alumni Office and the date of his death was given as August 14. No other comment was made, so if any classmate has further information, we will be glad to make notation thereof. Niles's address had been missing from our records for many years but was finally furnished by the Alumni Office last February, and a copy of the last annual class letter was sent to him at that time. The address noted was 314 Lenox Street, New Haven, Conn.

The Alumni Office has also recently sent forward the following changes in address: Milton W. Hogle, Hopeman Lumber and Manufacturing Company, Box 71, Rochester, N. Y.; Edward B. Belcher, 95 Court Street, Plattsburg, N. Y.; Carl F. Johnson, Zephyr Cove, Lake Tahoe, Nev. We hope these three will give us some further information regarding their present whereabouts and future plans. — ROGER W. WIGHT, *Secretary*, Care of The Travelers Fire Insurance Company, 700 Main Street, Hartford, Conn. WILLARD W. Dow, C.P.A., *Assistant Secretary*, 20 Beacon Street, Boston, Mass.

1902

Our 35th reunion at Oyster Harbors, June 11 to 13, gathered in 41 members from the various quarters of the country, and Allyn from Montreal brought the grand total to 42. Mendenhall from Salt Lake City scored the longest distance, with Bosworth from Denver as runner-up. Friday, the 11th, was not the best of days, but the fellows drifted in with the rain and fog and at two o'clock some 25 or more sat down for dinner. By sundown

the traditional good weather had come with many other good fellows. — The golfers — Mitchell, Montgomery, Hathaway, Fruit, Bosworth, Kellogg, Adrian, Sawyer, Galaher, Hammond, Annett, Friend, Reynolds, and Allyn — started a blind bogey tournament soon after dinner, as the ground dried up, while the others gathered in groups to chat of the past, present, and future. When the Secretary received the score on Sunday, Bosworth had the cup packed to take West.

The formal class meeting was held in the evening and the following class officers were elected: President, Leslie W. Millar; Vice-Presidents: Boston district, Lewis E. Moore; New York, Charles W. Kellogg; Chicago, John M. FitzGerald; Secretary, Burton G. Philbrick; and Treasurer, Frank P. Montgomery.

The meeting adjourned to hear Patch tell of the reconstruction of the old frigate *Constitution* which he illustrated with lantern slides. The talk gave most of us our first real knowledge of how the old frigates were built and of the extent to which Old Ironsides has been rejuvenated. As the fellows still remained awake, Patch offered to continue with a talk on a trip to Palestine and the offer fortunately was taken up, for it was a most interesting trip and the views were those which only Patch is keen enough to get. — Saturday morning Robbie rounded up Nelson, Dan Patch, Vatter, Mendenhall, Burt Philbrick, Baker, Joe Philbrick, Hunter, and Avery for a boat trip which helped us to orient ourselves and discover where we were at on Cape Cod. In the afternoon, several of the Class, mindful of the day, took a swim in the waters back of the club house. Saturday evening President Compton came down and joined us as our guest at the class dinner. After dinner, the Class adjourned from the main dining room to the parlor around the fireplace and learned firsthand of what is happening at Tech and what is proposed for the future. As President Compton had to leave early, the formal gathering broke up early and gathered into groups for bridge or chat.

As usual Judson had a large gathering listening to his tales of life and action with the marines in all parts of the world. Retired with the rank of colonel, he is now living at Miami Beach. His experiences in Vera Cruz and Haiti were particularly interesting. — Another group gathered around Ned Baker, who held his audience with the greatest of ease, and so the evening passed. — The reunion broke up late Sunday afternoon with groups leaving from before noon and on, all richer in renewed acquaintances and regretful that we could not meet more often.

The Secretary would add a few notes: The engagement of Elisabeth, the second eldest daughter of Mathesius, to Dallas Blair-Smith of New York was announced early in July and they were married in September. — Bassett is now at 461 Stuart Street, Boston, in the new building of the New England Power Company. — BURTON G. PHILBRICK, *Secretary*, 246 Stuart Street, Boston, Mass.

1904

I apologize to my classmates for the long time which has elapsed since any notes appeared in *The Review* and trust my apology will be accepted in the spirit in which it is offered, and without my giving any reasons therefor. — Under date of March 4, Selby Haar wrote as follows: "Herewith please find program for the recent Technology club dinner here (New York City). This year '04 did not do so well. From the names on the back you can see that there were six at our table: three from '03 — Mr. and Mrs. Hermon F. Bell and Hewitt Crosby; three from '04 — George Ainsworth, IV, my sister, and myself. I believe '05 had a whole table to themselves. The speeches were well received and the whole affair was distinctly a success. . . . I saw Billy Evans in December. He is with the Aero-fin Corporation. Last Tuesday I listened on the radio to a few remarks by Willard. His voice did not sound the way I remembered it. That is all I can offer just now except that I forgot to say that Easterbrooks and Whitaker told me they were coming to the dinner but did not appear."

During the month of April, Cy Ferris was at the Brooks Hospital for a slight operation from which he recovered completely in ample time to attend the annual reunion in June. In case you are interested in hearing why he was in the hospital you had better ask him when you see him. — Gus Munster, who is thoroughly conversant with railroad affairs, sent in a clipping from some railroad publication, giving the following information: "J. G. Metcalfe, Asst. Supt. of Transportation of the Louisville & Nashville, has been promoted to Supt. of Transportation, to succeed Rolla C. Parsons. . . . Their offices are located at Louisville, Ky. Mr. Metcalfe was born at Louisville on Apr. 20, 1882, and was educated at M.I.T., graduating in 1904. He served with the L. & N. as a rodman before his graduation, returning to the railroad after college on Sept. 1, 1905, as a clerk in the trainmaster's office at Middlesboro, Ky. Subsequently he served as yardmaster at Appalachia, Va., yardmaster at Corbin, Ky., assistant trainmaster of the Nashville division, trainmaster of the Cincinnati division, assistant superintendent of the Cincinnati division, and superintendent of the latter division, being promoted to the latter position on Jan. 1, 1924. He has served as Asst. Supt. of Transportation since Aug. 16, 1936."

The annual reunion of the Class was held as usual at East Bay Lodge, Oster-ville, Mass., on June 25, 26, and 27. The trip down to the Cape was preceded by a luncheon at the University Club, at which the following were present: Cobb, Fellows, Munster, Rockwood, Kendall, Russell, Stevens, Parker, Comstock, G. W. Sanborn, and Dennie. The attendance at East Bay Lodge was rather smaller than usual, but all those present enjoyed themselves as always. The weather was not so good as it has been, but that interfered very little with the

spirits of the crowd. Those present were: Cobb, Fellows, Munster, Draper, Kendall, Russell, Stevens, Parker, and Curtis.

As a result of the reply cards received from classmates with reference to the reunion, we gleaned one or two items of interest: J. W. Roland writes from Vancouver, British Columbia, that he is out there supervising the erection of the Lions Gate Bridge, which will be 6,000 feet long, with a 1,500-foot suspension span; he expects to be there for 18 months. — A card from Llewellyn Bixby from Long Beach, Calif., states he will be back sometime and would like to tangle with some of the boys at golf. From what I remember of Bixby's golf the last time he attended a reunion, it would be just too bad for the Easterners. — Buck Langley wrote that he was recovering from a trip to the Hartford hospital after injuring his spine again near his old injury received in 1923 and was about to enter the hospital to have his tonsils removed. He was having a lovely, new pink corset made with which he hoped to be getting around soon, and stated that it is impossible to kill a 1904 man. He is now living in Hartford, which is nearer his work in the state highway department with headquarters in the Connecticut capitol.

A clipping from the *Pacific Coast Wall Street Journal* during the month of April gave some interesting information with reference to Herbert Kalmus and Technicolor, Inc., and stated that he was en route at that time to New York City, preparatory to sailing for England to inspect the company's English plant. — It was my good fortune to visit the Canal Zone during the month of April and when embarking for New York at Cristobal one of the first persons I met was Herb. We spent many pleasant hours together on the trip back to New York. Herb is the same genial companion he always was and the unexpected meeting with him was one I shall long remember.

The *Boston Herald* of August 4 contained a picture of some of the participants in the annual fathers and sons golf tournament at the Winchester Country Club. It is my usual custom to read the sports pages very carefully and upon looking at the picture I immediately recognized Chick Emerson, although his face had a most ferocious scowl. The note accompanying the picture stated that Chick and his son, Elliott, aged 11 years, took part in the tournament. I am sorry to have to state that Elliott was unable to drag his poor old dad through to a prize. I saw Chick recently and he promised he would do better next year.

Under date of May 17 an item in the *Boston Herald* stated: "The American Academy in Rome announced today that Richard Gardner Hartshorne, Jr., of Melrose, Mass., took first honors in its annual architecture competition, with a modern classic entry, reflecting its façade in a pool before the main entrance. He is a student at Yale Institute of Fine Arts. With the honor goes a fellowship worth \$2,800 for two years' study in Rome." This prize is one that is greatly sought and is indicative of the highest ability on

the part of the winner. It is a source of great gratification to our Class that the son of our classmate, Dick Hartshorne, should win it this year.

Under date of July 13 I received the following letter from Selskar Gunn, written from Shanghai. He is now one of the vice-presidents of the Rockefeller Foundation and has been located in Shanghai for a considerable period of time. His letter is of great interest and will be given in installments: "On my return to Shanghai, I received your post card with regard to the reunion of the Class in June. Unfortunately, I had left the United States earlier so that it was not possible to attend. I feel that I owe you an apology on several counts: (1) I haven't written you for years; (2) I was in Boston on April 23 of this year, for the purpose of giving the William Thompson Sedgwick lecture, and I never got in touch with you during that time. Please forgive me. I have been out in China the best part of the last five years, although I have made hurried trips to the United States. I have also visited Mexico and the Soviet Union during that time in connection with the work of the Foundation. However, my major interest has been China, and I am in charge of a program the Foundation is carrying on here in connection with rural reconstruction. You can well imagine this is a mighty project. . . ."

Under date of September 19 I received a letter from General Holcombe from Washington, as follows: "I am sending you under separate cover a collection of pictures that Mert Emerson got recently from Ovington's widow, largely pictures of our classmates that ought to be preserved in the class archives. There are a few duplicates that you can distribute among the subjects, if they would like them. My daughter, Priscilla, has just returned from eight months in Paris, where she got a diploma from the Sorbonne and a certificate from the Institute de Phonétique that she can speak French correctly, so now she is ready to earn her living teaching — I hope. Only she has no position in view."

"I have played a little golf this summer and Mert and I have played a little contract — poker style, not Culbertson. But most of the summer was too warm to leave Washington, where we have a cool house, and swelter at some resort place. The highest temperature we had was 97, and I won a golf tournament that day from a bunch of chaps who thought it was hot. The only class news I think of is that Harry Groves's boy, who graduated from Montgomery-Blair High School here in June, won a \$200 scholarship to M.I.T. this year. And, of course, mention should be made of Mert Emerson's appointment by the President and confirmation by the Senate as technical expert of the Social Security Board — how he does it, I don't know." — I am still awaiting with great interest the arrival of the pictures mentioned in Holcombe's letter; no doubt they may be highly amusing. — We are glad to know that Mert Emerson has succeeded in entering the employ of the government again, as indicated in the

Which Class Will Have the Largest Percentage of Its Membership Contributing to the Alumni Fund?

1904 Continued

General's letter, and hope that the Social Security Act will now be highly successful; certainly Mertt's addition to its personnel goes a long way towards its success.

It is my sad duty to record the passing, on May 25, of Elsie M. Parker, wife of Edward F. Parker, President of the First National Bank of Reading. She had not been in the best of health for about a year, but her death occurred after a very brief period of illness and was a great shock to those of us who were most intimate with Ed, who has the deepest sympathy of all of us. — Evarts W. Charles died in Portland, Ore., on March 15; and the notification of the reunion sent to Leslie R. Grant in Seattle was returned with the simple word, "deceased."

This completes the notes for this issue and I sincerely hope that so long a time will not come again between my efforts to provide you with such news of our classmates as I receive. — HENRY W. STEVENS, *Secretary*, 12 Garrison Street, Chestnut Hill, Mass. AMASA M. HOLCOMBE, *Assistant Secretary*, 4817 Woodway Lane, Northwest, Washington, D.C.

1905

The 32d reunion at Old Lyme, Conn., June 4 to 6, took place nearly five months ago. It can't be, for your Secretary's memory, while recalling many high spots, just fades surprisingly when turning the dial to Station OLC. Calling on Past Secretary Marcy, he finds the dates correct, and we get the following flash from Grove: "My recollections of a darned good time are surrounded by a fuzzy haze as to details. That is not due to Charlie Boggs's or Billy Ball's efficiency as haze producers either, though they are good — rather to a coarse-grained memory which refuses to remember details unless specially charged in advance. Well, now let's see. I remember a pleasant trip down in Wes Gilman's car, being assigned to a good room, and getting downstairs for Charlie's first round, which — with those which followed — loosened us up most agreeably. Then a good supper. The fun of seeing old friends, and new arrivals tumultuously welcomed. Always several who have not been back for a long time, and much mixed history to be sorted out during the pleasant evening around the fire, where even engineers wax eloquent. Darned few crowds so mutually *en rapport*, yet all able to go to bed under their own steam."

"Next morning: strolling to breakfast in bright sun on poppies and larkspur. Lounging on the porches in twos and threes, while groups for golf and tennis make themselves up. More arrivals who have not been seen for a long time and many old threads picked up where they broke off. No haste, worry, or boredom. Exercise for them that want it in degrees suited to their strenuousness. Word received that Ray Bell's schooner approaches anchorage, and a general hegira to the shore. Ferried out by his tender, our promptness surprises Ray, clad only in trunks, much browned skin, and his beaming smile. He hastily dons commo-

dore regalia. Greetings to Mrs. Bell and we bear Ray off to the Manor, where many profess surprise at his abstemiousness. But even that had its limits properly."

"Another congenial evening around the fire: Story, fact, and opinion all related with no fear but the others would know which was which. General feeling that it was good to be there, and you could feel the strain of past years slipping off. To bed, with a warning to be up betimes, if we wanted a cruise on the Sound. Sunday morning: all but the inveterate golfers board the *Yankee* which, with Ray at the wheel, slips through the Sound for a perfect day on the water. Not much wind, and an occasional patch of fog, during which the alternate skippers — Andy, Ros, and Charlie Boggs — dispute the ship's position and finally creep up on a numbered channel marker by hand, to find its number on the chart and learn they were all wrong. Anyway, Ray brought us back in time to break up for home, vowing once again that these reunions shall be an annual habit."

An editor's obsession for brevity caused Grove to forget some things, especially the championship doubles. Lacking his old partner, Kenway, who was, at the last minute, called to Washington to untangle the Patent Office again, Grove picked up a young fellow named Spalding from Westfield, N.J., and forthwith challenged the heretofore unbeaten team of Bridges and Goldthwait. The challengers were so surprised by the form of their opponents that they lost the first two sets, 0-6 and 1-6. Gaining nonchalance during a brief 30 minutes' rest, they rose to glorious heights, taking the next three sets, 14-12, 19-17, and 6-0. Bill and Grove accepted their championship trophy without rising, and the vanquished had only alibis and a threat for 1938. After the match, Wiggins, against the advice of his physician and the protests of his charming bride, showed how "we used to do it for old Amherst," with an exhibition of serving to an imaginary foe. His aces were perfect.

Who attended the reunion? Twenty-five men, all of whom, before leaving, signed up for 1938, namely, Dan Adams, Roy Allen, Ball, Barrier, Bell, Bennett, Boggs, Bridges, Buff (sounds like a bee hive), Danforth, Davis, Files, Fisher, Fouhy, Gilman, Goldthwait, Bill Green, Charles W. Johnston (of Portsmouth, Va., suh), Marcy, Robbe, Segar, Shapira, Spalding, Strickland, and Wiggins. Ladies present, or just around the corner, were Mrs. Johnston, Mrs. Wiggins, and, of course, Mrs. Bell to keep the *Yankee* (if not Ray) on an even keel. In spite of the fact that many new and beautiful cameras were seen in action and prints galore promised your Secretary, we have yet to see that either the marksmen or the cameras were any good (à la Walter Bent of Eastman fame in 1935).

Just to keep about 350 classmates from feeling too badly about missing this good time we announce that the same arrangements have been reserved for June 3 to 5, 1938. Get the habit; become an Old

Lymer. — In Cambridge on Alumni Day, Monday, June 7, we saw Buff, Johnston, Boggs (wearing very gracefully his new laurels as vice-president of the Alumni Association and posing plenty for the candid cameramen), Hadley, Gammons, Babcock, Keith, Cowdrey, and Fisher. Commodore Fisher of the '05 Navy withdrew his entries in the dinghy race after making a chemical analysis of the water in the Basin — but more of that later in his official report. At the Alumni Dinner we had, as usual, the largest delegation within a radius of ten years, including Carhart, Boggs, Babcock, Keith, Marcy, Buff, Gammons, Johnston, and the Secretary. Also we finally identified two men who hadn't been with us at a class gathering for many years as Paul Blair, IX, of Washington, D.C., and Clayton M. Simmers, XIII-A, of the United States Navy.

Letters of regret at their inability to attend the reunion brought these bits of news: Jim Barlow, I, is still giving Portland, Maine, the same city management that has made this form of government a standout in some places. Jim was busy the first week-end in June in New York, welcoming home his daughter from Europe. — Arthur Gerry, II, was just starting a new home-insulation business in Laconia, N.H., and business was so hot that he had to stay and cover up. — Ben Lindsly, III, was in Oklahoma and Texas, on "oil and gas" with the Securities Exchange Commission. — Hub Kenway, who sees Ben in Washington occasionally, says Ben is doing a splendid job for the S.E.C. and incidentally will give any anti-New Dealers a grand argument at some subsequent reunion. — Harry Atwood, II, is (or was) operating a diesel engineering school in Boston. — Carl Humphrey, I, had a son graduating from the University of Pennsylvania in June. — Gib Tower called up Rev. S. Armore Caine, XIII, finding him engaged for the week-end but desirous of being remembered to all his old friends. — George Jones's telegram, received at Old Lyme, "my best to all the graybeards," was returned with the suggestion that he had probably misaddressed a wire to some old men's home.

Prince Crowell's trip to Europe this summer was evidently very enlightening and we have already signed him up for our fall round-table discussion on European affairs. Prince, in search of secrets of morocco leather making, had entree to the headquarters of some of the insurgent generals in the Spanish War. — Frank Elliott, III, starts his letter in the proper spirit with a check for class dues (by the way, 72 men — 20% — have contributed to maintenance by paying the 1937 assessment. More to follow?). Frank says: "Inclosed is \$1.00. The news is worth ten times as much. I feel I have been negligent in the last few years in not communicating with you. I would certainly love to come down to Boxwood Manor and spend three days with all of you. However, my business is such that this year on June 4 I shall have to be in Los Angeles. As to a little news of my family and myself —

1905 Continued

I am most happily located here in St. Louis, selling advertising calendars and advertising novelties through a national sales force of about 800 men. Mrs. Elliott and I built a modest home, beautifully situated, and have surrounded ourselves with flower gardens and the ordinary comforts of life in a darn hot place in the summer. Namely, we had the house air conditioned throughout. My only son, now 23 years old, is in this business with me. He was married last Thanksgiving day, and I have enjoyed his association in business with me immensely. With kindest regards to those who remember me and best wishes to every member of the Class. . . . Frank is with the Skinner and Kennedy Stationery Company, 416 North 4th Street, St. Louis, Mo.

Bill Green was in to see the Secretary one day this summer and elated him with the possibility of selling a pump for a machine he was designing for his brother. Later, with entire disregard of his duty to the official representative of his Class, he found a better way to do the job, and the pre-spent profits of an anticipated \$40 order had to be accounted for by a drastic rebalancing of the budget. — John Damon also paid his official respects one day this summer, en route to visiting his vacationing family at Prince Edward Island. Fearing another bitter disappointment, we gave him a toy pump for the young son, Merrill, to play with at the beach. On his return John wrote a testimonial that really surprised us: "The pump really pumped water." The smile on the photograph of Merrill, which accompanied it, is a real Damon smile.

Clarence Gage, II, has been out on his traveling secretary job again, doing Washington, D.C., and Chicago. He says the itinerary we laid out for him showed a surprising lack of geographical knowledge. He thinks he may cover the route in a couple of years. Extracts from his reports are as follows: "We got to Chicago early and I immediately looked up G. B. Jones. He is in a new office since I saw him last but is the same Jones as ever, though his hair may be a little thinner and grayer. We took your list and a telephone book and tried to round up a group for lunch. William Becker had an appointment; Joe Brown, ditto. Adolph Ortseifen had to see a man about selling some property. Frank Payne was not yet down to work (at 12 noon). L. M. Pease was not known at all at the address you gave. Albert H. Smith — his firm had gone out of business and no one knew him. Robert K. Clark had an 11 A.M. business appointment with Jones but could not stay to lunch. Had a few words with him before that. He seems just the same. J. I. Banash was the only one who could get away. We had lunch at the Bar Association as guests of Jones. Banash is a very interesting talker. I believe he is selling the uses of oxygen to the medical profession. After lunch we talked until I had to leave. Next month I will be in Milwaukee." Thanks, Clarence. You're a great news hawk.

Fall report of Class Admiral Fisher, X: "Winning the dinghy race to be held next June on Alumni Day is dependent on getting the Charles River Basin clean. Prince Crowell, whom I have appointed vice-admiral, has just returned from a series of victories in sailing matches at Buzzards Bay and is willing to lead our fleet, but he can sail only in clean water. We have other splendid material in Charlie Boggs, Ros Davis, Bert Files, and Carl Graesser (provided he can be tutored to answer the technical questions necessary to membership in the Tech navy), but until Doc Lewis gets the water cleaned up it is impossible for me to generate enthusiasm in these capable seamen. Now that Doc is concentrating on water purification at M.I.T. (I have given him the formula), we expect him to get Tech and Harvard together with the Brahmins who patronize the Union and other boat clubs, also the *hoi polloi* who bathe at Magazine Beach, and clean things up. It is up to the Class of 1905 to take a stand for a clean Basin before we compete with birds who do not mind filth." Report accepted and placed on file.

Luther E. Gilmore, X, who has been fighting a brave and patient fight against an incurable disease for several years, succumbed at Lake Worth, Fla., on August 13. We are glad that the visits that some of the boys made to his home in Newton last winter provided Lutie with some of the class contacts he had so much missed; also that your flowers brought him a bit of cheer in his long, long trial. — From George Jones comes the news that Edward M. Read, I, died of heart trouble while playing tennis at his home in St. Louis on July 15. Read was with us for some time but was graduated with '06. — Through a brother we learn that Mrs. J. A. Reynolds, IV (maiden name not known to the Secretary), passed away on July 25, 1936.

Changes in address since the last issue: S. Henry Ayers, VII, Crown Can Company, Erie Avenue and H Street, Philadelphia, Pa.; Bertrand L. Johnson, III, 810 Highland Drive, Woodside Park, Silver Spring, Md.; E. Logan Hill, II, 119 Lincoln Avenue, Lincoln, Ill.; Forest O. Sprague, V, Read Laboratories, 143 West 20th Street, New York City; Samuel Seaver, XIII, 178 Blythwood Road, Toronto, Ontario; Huntington Smith, I, New York and St. Louis Railroad Company, 926 Terminal Tower Building, Cleveland, Ohio; Walter L. Whittemore, United States War Department, Box 151, Dover, Ohio; F. Chas. Starr, care of Cosmos Club, Washington, D.C. Maurice E. Weaver, VI, 2101 Wisconsin Avenue, Washington, D.C. — FRED W. GOLDTHWAIT Secretary, 175 High Street, Boston, Mass. SIDNEY T. STRICKLAND, Assistant Secretary, 209 Washington Street, Boston, Mass.

1906

A few members of the Class attended the annual Alumni Day on June 7. Five were present at the luncheon, namely, W. G. Abbott, VI, Clarence Carter, I,

Stewart Coey, VI, and the two Secretaries. Eleven were present at the banquet at the Hotel Statler. These included all those at the luncheon except Clarence Carter, and the following seven: Ralph Clarke, VI, Henry Darling, III, Colby Dill, X, Tom Hinckley, XI, Bill Lumbert, IV, Ray Philbrick, VI, and Sam Nash, II. Our attendance at the Statler dinner was increased by one, due to the presence of Bill Lumbert, Jr., who, at that time, stated that he intended to enter Technology in the fall. Classmates were particularly glad to welcome Colby Dill, who was quite a stranger to the Boston group. He is with the Du Pont people in Wilmington, Del. Stewart Coey and Abe Sherman, who have the distinction of being regional secretaries, attended the dinner given by President Compton on the previous evening.

Under the date of July 9, the Secretary received a letter from Cy Young, which read as follows: "You might be interested in the attached post card which I have just received from Alma Whiting, widow of our classmate, the late Herbert S. Whiting of New York. Also you may remember that in the roll calls of our several classes in Tech is the name of Williston Rich. He is a neighbor of mine in Minneapolis, being secretary-treasurer of a large steel company here, namely, the Minneapolis Moline Company, manufacturers of structural steel, farm implements, tractors, and so on, distributed all over the world. He has three children, including two daughters, one 18 and one 25. They are planning to chaperon my son, 15, who is driving down to Maine to visit his grandmother, while they visit relatives in Boston and New York, including their brother, who has made quite a reputation as a reporter on one of the large New York papers — I forget which one. I believe he accompanied Roosevelt on one of his trips to the West during the campaign." The post card in question was mailed from Persborg, Sweden, dated June 24, and advised that Mrs. Whiting was leaving for Stockholm in a few days and then expected to go to France and England.

As a rule, this column does not devote much space to address changes. However, Alumni Secretary Locke '96 submitted the following note: "R. J. Barber has received the appointment of dean of school of mines, University of Alaska, Fairbanks, Alaska, and he and Mrs. Barber sailed from Seattle on August 25, Seward, August 31, and Fairbanks, September 2, for the opening of school on September 13. His rating will be professor of mining and geology, and associated with him will be an associate professor of mining, an associate professor of metallurgy, and an assistant professor of mineralogy. He was very happy over this appointment." — Another address change is that of Helen R. Hosmer, V, now recorded with the International Grenfell Association, Forteau, Labrador.

We report the death of Joseph W. Johnson, II, on May 6. For some years, Johnson was with the American Agricultural Chemical Company here in Boston.

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

1906 Continued

In 1921 he was reported in New York but for the last ten years was with Thomas J. Johnson and Company, 896 Washington Street, Boston, who are listed as door manufacturers. — JAMES W. KIDDER, *Secretary*, Room 802, 50 Oliver Street, Boston, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills, Mass.

1907

Favored by perfect weather, held in the ideal environment of the Oyster Harbors Club at Osterville, Mass., attended by a particularly congenial group of men, the 30th reunion of our Class was voted a conspicuous success by all of the 50 fellows who were present for at least a portion of the time between the forenoon of Friday, June 4, and Monday morning, June 7.

Harold Wonson and the Secretary reached the Club at about 11:15 A.M. on Friday, expecting to be the first arrivals, but we were greeted by Stud Leavell, John Frank, Gilbert Small, and Maurice R. Scharff '09, who was a welcome addition to our party. After various necessary details of entertainment had been arranged with the management of the Club, we arrived in due course at the room occupied by John and Stud, and in talking over who was expected to attend, it developed that nothing had been heard from Bebe Hosmer of Concord, Mass., without whose presence an '07 reunion is never quite complete. Stud said, "We will telephone him," and suiting the action to the word, put in a call, and the rest of us listened to Stud, saying something like this: "Hello, Hosmer . . ." "This is Leavell . . . Stud Leavell . . . I'm at Osterville. Why aren't you here . . .? Can't get away! H—I you say. . . . You've got to come down here today. . . . What do you mean you can't! . . . If you don't show up here by supper, I'll keep on telephoning you collect till you get here. . . . You'll come? Good! Sure, now." Perhaps it seems foolish to use space in describing this incident, but you '07 men who read it will appreciate the humor of it. We might as well say right now that Hosmer did show up, although not until Saturday evening.

During the afternoon of Friday, classmates kept arriving, some of them hastening to the golf course — one of the finest in the United States — others remaining on the spacious veranda of the clubhouse to welcome newcomers and to join in the stimulating and vivacious conversation which can take place only among a group of men who are doing things in the world and who are tied together by bonds of friendship and mutual interest peculiar to college classmates. By evening on this first day, 25 men had arrived and the atmosphere of congeniality that existed as we talked, in frequently changing groups, can be appreciated only by those who have been present at this or similar gatherings.

Saturday brought weather warm and clear, and also brought more '07 men to Osterville. Golf was the principal sport

for many, others driving along the fine roads of inimitable Cape Cod, through scenery which cannot be exactly matched anywhere in the world, some remaining comfortably smoking and chatting on the lawns of the Club. Ideal water temperature for so early in the season made swimming a delight to some. In the afternoon 15 of us enjoyed a three and a half hour trip in a power boat to Hyannis harbor and back. By 7:30 P.M., 48 men had written their names on the "Order of Arrival" sheet that we had posted on the bulletin board.

The group photograph, reproduced in this issue of *The Review*, was taken at this time. Note that there are 42 *different* faces appearing in this picture, although 43 faces. After the revolving camera had turned sufficiently, Starkweather (of whom Sam Marx says, "He'll never grow up,") scooted behind the group from his first position and arrived at the other end in time to pop up and get into the picture a second time! The discrepancy between the 42 in the picture and the 48 registered is accounted for by the fact that Bill Coffin, Fred Dempwolf, Stanley Wires, and Paul Cumings did not get in from golf in time for the photograph; Fred Moses had to leave before the picture was taken; and Molly Scharff did not get into the group.

On Saturday evening the class dinner was held, all sitting down together and remaining around the tables until about 10:30. After a splendid repast our Class President, Macomber, made some typically happily worded remarks, and called on the Class Secretary to read greetings from men unable to be present and to tell of the doings of classmates scattered around the world. For more than an hour and a half, in a very informal manner, this program was carried out, and the men seemed to enjoy it to the utmost. Kenneth Chipman, survey engineer, assistant to the chief topographical engineer, Geological Survey of Canada, present at our reunion for the first time, gave a bright and humorous short talk on some of his experiences. Harold Wonson made a statement regarding class finances, Lawrie Allen led in a "We are happy" yell, and just as the echoes of that were dying away, there was a scuffle at the door to the dining room and who should appear but Bebe Hosmer! A real dramatic, splendidly timed entrance! And he received a royal welcome.

Sunday was another beautiful day, and golf, swimming, riding, talking again made up the day's program. John West, Macomber's former business partner and well known to some of the Class, came for Sunday dinner, making the total registration an even 50. Most of the men left for home or for Boston so that only nine remained at the Club over Sunday night, and at breakfast table on Monday, Hud Hastings, Leverett Cutten, Harold Wonson, and the Secretary were the only men left to say good-by and express hearty appreciation to waitresses, bellhops, clerks, and the manager, Mr. C. W. Wannon, for splendid service and the ultimate in courteous treatment.

Those present during the reunion were Bob Albrow, Charlie Allen, Lawrie Allen, Bert Bancroft, Clinton Barker, Charles Bragdon, Harry Burhans, Kenneth Chipman, Bill Coffin, George Crane, Allan Cullimore, Paul Cumings, Leverett Cutten, Fred Dempwolf, Harold Farrington, John Frank, Jim Garratt, Hud Hastings, Ralph Hudson, Bebe Hosmer, Stud Leavell, Ed Lee, Roy Lindsay, Howard McChesney, Milton MacGregor, John McMillin, Alexander Macomber, Henry Martin, Sam Marx, Harry Moody, Ed Moreland, Fred Moses, Bryant Nichols, O. L. Peabody, Ed Prouty, Bob Rand, Don Robbins, Karl Richards, Gilbert Small, Ed Squire, Oscar Starkweather, Phelps Swett, Molly Scharff, Chet Vose, Phil Walker, Stanley Wires, John West, Dick Woodbridge, Bill Woodward, and Harold Wonson.

In connection with the reunion, the Secretary had prepared an exhibit, which was set up on tables in a room at the clubhouse and which aroused a good deal of interest. It consisted of many old photographs of groups and individuals, taken during undergraduate days and at reunions since then, including many old Tech Show pictures; a few folders and brochures descriptive of organizations in which '07 men are executives; and the complete card index of the Class and a special folder giving facts about classmates who have died since 1907. At the dinner at the reunion, the Secretary pointed out that the total number of men who are considered '07 men by the Alumni Office is 511. Of this number, addresses are known for 377; no addresses are known for 63; and 71 have died. This means that 13.9% of the entire list are deceased. Our graduating Class in 1907 numbered 209, and of these only 22, or 10.5%, have died. On our class mailing list we carry 240 names, consisting of all graduates and of 31 others, who have manifested real interest in class affairs.

The following messages of greeting were received during reunion at the Oyster Harbors Club: Cablegram, "Greetings to all and best wishes for successful 30th reunion. Time and distance only prevent my attendance." Frank MacGregor, Buenos Aires, Argentina, South America. — Telegram, "Please convey my best wishes for happy reunion and regrets that I cannot be there in person but am in spirit and with cordial greetings to all. Am tenderly nursing production and development on a most promising high-grade silver property with 50-ton flotation mill running three shifts, and if administration's silver policy continues will soon be working on velvet and out of the red. Now showing some real profits. Will be East for vacation later in summer. My sincere regrets at being absent." Sam Coupal from Phoenix, Ariz. — Telegram, "Regret exceedingly unable to have made our happy 30th reunion. Of course I extend congratulations and best wishes to our Class individually and their wives and families and trust that you all have had a splendid holiday. I tried my best to make the grade but missed out, but next time will arrange

1907 Continued

positively to be with you. Wishing you all success and prosperity for another 30 years of reunions. . . . Louis A. Freedman, New York City. (Louis is inventor of the Bell-Lite elevator signals system, used for floor stop signals in office and apartment buildings, and is head of the company merchandising the service, with office in Times Building, New York City.) — In addition to these wire messages were many written on statistics sheets and letters received by the Secretary prior to the reunion and read by him at the Saturday night class meeting at Osterville.

Twenty '07 men — just enough to fill completely the seats at two tables — attended the Alumni Dinner at the Hotel Statler, Boston, on Monday, June 7. Jim Barker, who was unable to get to Osterville, was on hand, and also present was Arthur T. Remick from New York, this being his first appearance at any Boston alumni gathering since 1907. The following fellows who had been at Oyster Harbors Club attended: Albrow, Lawrie Allen, Clinton Barker, Burhans, Chipman, Coffin, Crane, Cullimore, Cutten, Frank Garratt, Hudson, Lee, Moreland, Nichols, Peabody, Small, and Wonson.

A most important additional man at this dinner was Don Robbins, who, as president of the Alumni Association, occupied a seat of honor at the head table and made one of the addresses of the evening. Don also was a speaker at the class day exercises of the Class of 1937 on the Institute grounds at Cambridge on the afternoon of this same day. Again, as in 1936, our Class was very much in evidence during these commencement and reunion days, for besides Don's prominence, Alexander Macomber was, as usual, chief marshal at the commencement exercises, Ralph Hudson was chairman of the faculty committee on graduation exercises, and Lawrie Allen was a member of the executive committee of the reunion general staff and chairman of the subcommittee in charge of the luncheon served on the Institute grounds to some eight hundred people on Alumni Day, June 7. All in all, the four days, June 4 to 7, were days in which those of us who were present took real pride in our Class and enjoyed to the utmost the stimulating influence of fellowship with our mates. Our only regret was that instead of the 50 men who were present, there might have been double that number.

Now, with regard to the business and personal activities of the men who attended the reunion, comments about many of them have appeared in quite recent issues of *The Review*, but there are many items of interest that should be recorded. Bert Bancroft continues to be the successful head of Bancroft Walker Company, manufacturers of the Foot Delight shoes, with factory in Waltham, Mass. — Harry Burhans was in the hardware business in Syracuse, N.Y., until 1926, when he sold out his business advantageously and since then has traveled extensively and enjoyed life. Harry is married, but has no children; he lives at 2627 East Genesee Street, Syracuse, N.Y. This

was Harry's first time at a class reunion and he assured us that it will not be his last.

It would be ridiculous to say that any one man contributed most to the enjoyment of his fellows at Osterville, but surely no man added more to the pleasure and to the information of our group than Leverett Cutten. Leverett was not at all widely known as an undergraduate in Course II, has never attended a previous reunion, has never been much of a correspondent with the Secretary. To be honest, when his registration came in for the reunion, the Secretary had to look in the senior portfolio to recall what this classmate looked like. He was a partner in a concern dealing in plumbing and heating supplies in Daytona, Fla., from 1907 to 1918, then went with Fred T. Ley Company as engineer for a year, and since 1919 has been plant engineer and maintenance man for the Mack Manufacturing Corporation (Mack trucks) at Allentown, Pa., where this firm has a plant covering 35 acres and employing about 3,500 people. Leverett was married in the fall of 1907, but his wife died in April, 1920, following the birth of a daughter in March just preceding, and this daughter also died, in June of the same year — a tragic experience for our classmate. He has a 20-year-old son, however, who is now a student at Technology. His great contribution to our entertainment at our reunion was his ever enthusiastic description of his activities in connection with his three unusual hobbies — archery, telescope making, and silversmithing. For many years he has devoted hours and hours in study and in manual artistry to these three subjects, never for financial profit, always for the sheer fun of it. But the thoroughness of his knowledge impressed us all. In archery he owns practically all of the books ever printed on the subject during the past 150 years. He makes bows and arrows himself in spare time, not amateurishly but expertly, from the finest materials, and he participates in many championship archery tournaments all over eastern United States. In telescopic endeavors he has made equally thorough studies and has personally built many telescopes of substantial size, grinding the lenses, and doing all the work himself. His most recent hobby is silversmithing, and judging by the really beautiful cream pitcher, tea urn, and sugar bowl that he had with him, all designed, hammered out of sheets of solid silver, and polished by him, he has acquired a mastery in this art, also. We marveled that a man with his business responsibilities could find time to do such painstaking, specialized, and beautiful work, and Leverett laughingly said that he did it in the evenings for a couple of hours in the shop in the cellar of his home in Allentown, just his recreation. If you are ever at Allentown, call and see Leverett Cutten at his home, 2815 Washington Street, or at his office.

Fred Dempwolf, architect with offices in the Cassatt Building, York, Pa., is one of the most prominent citizens of that

city, being treasurer of the York Collegiate Institute, trustee and vice-president of the Children's Home (an orphanage), and a director of York Trust Company, York Chemical Works, York Hotel Corporation, and York Improvement Corporation, besides being a member of several local clubs and societies. Fred is married and has two daughters, aged nine and seven years.

Harold Farrington and John McMillin spent one day at our reunion, partly as the result of earnest letter writing by the Class Secretary, but like all the rest, they had such a fine time that they have agreed verbally and in writing since June that they will surely stay for the full period at our next gathering. Harold was the owner of Importing Company of New York, from 1915 to 1929, prospered, and since then has been retired. He maintains an office at 43 Cedar Street, New York City, to handle his personal affairs and is interested in a number of companies, but only as a director and as a member of executive and other committees. His wife died in 1930, and he has a 16-year-old son. — John McMillin has been associated with Cities Service Company at 60 Wall Street, New York City, since 1908 and is now a director and also director in various subsidiaries. He has a fine home at 3 Fairway Close, Forest Hills, N.Y.; is married; and has two children, aged 17 and 21 years.

An '07 reunion without Stud Leavell, John Frank, and Sam Marx would hardly seem like a real reunion, and, as previously noted, they were all on hand from start to finish. Stud has grown pretty gray, but looked well and as usual was quite the life of the party. It has always been difficult to learn much about Stud from himself, but on May 17 he wrote on his Tulsa, Okla., letterhead as follows: "There is not a devil of a lot I can tell you about myself other than that the world has been treating me very well for a long time; that my health is good; that I have one boy who is 17 years of age and expects to enter Tech in about a year; and that I was divorced from my wife approximately two years ago. My business is almost entirely with natural resources, principally oil production in which I have been reasonably successful."

Fred Moses was able to stay at our reunion for only a few hours on Saturday because of the fact that in his capacity as president of the Firemen's Mutual Insurance Company of Providence, R.I., and three other fire insurance companies, he was entertaining the officials of some English insurance companies over that weekend. Under the circumstances he showed real class loyalty to drive to Osterville just for lunch and the afternoon. Fred has bought some land in Bermuda and plans to build a house there. It was suggested that this would be a fine location for our 35th reunion! — Chester Vose also could be with us at Osterville only on Saturday, as he felt that he must return to his home at Marion, Mass., at night so as to be on the job in case cold weather should occur to affect his cranberry bogs. Chet is a leading cranberry

Alumni Are Raising \$1,650,000 for a Technology Gymnasium and Other Recreational Facilities. If You Have Not Subscribed, Increase Your Class Total Now.

grower of the country and on August 24 was elected president of the Cape Cod Cranberry Growers' Association.

On July 10, Richard Merritt Allen, son of our Lawrie, was married to Miss Virginia Josselyn of Waltham, Mass. Dick is a credit adjuster with Lever Brothers (soap manufacturers) of Cambridge, having attended Andover Academy and Bowdoin College. Lawrie himself is industrial engineer with United Shoe Machinery Corporation with office at Boston. — A week later, on July 17, Marcia Wonson, the elder daughter of Harold, was married in the chapel of Wheaton College at Norton, Mass., from which she was graduated in 1936, to Walter H. Lillard, Jr., son of the headmaster of Tabor Academy at Marion, Mass., and himself an instructor in mathematics at the Academy. Harold is treasurer of Commonwealth Shoe and Leather Company and of two allied corporations, with factories at Whitman, Mass., and he is very active and prominent in the shoe and leather trade in New England. — A letter from Phil Walker received on August 24, states that he and his wife had a big surprise early in that month when they received a wire from San Francisco from their son Philip, Jr., '34, saying that he had taken to himself a wife. Phil is maintenance engineer with Whitin Machine Works of Whitinsville, Mass., a very large and prosperous corporation. — George Crane's older son, H. Irving Crane, received his Ph.D. degree at Technology on June 8.

In closing these notes, we have to record the death of William Fyfe Turnbull, which occurred on May 14. He was a graduate of Columbia University with an A.B. degree in 1903, and was with our Class for four years in Course II. We wrote a letter to his widow and under date of June 22 received the following reply: "Thank you very much for your sympathy and that of the Class. . . . My husband was connected with the American Locomotive Company until 1915 when he went to the University of Pennsylvania as an instructor in the engineering school. From 1917 to 1919, he was in Washington in the labor department, placing returned soldiers; 1919 to 1921, instructor, Tower Scientific School, Yale University; 1921 to 1927, instructor, New York University, school of engineering; 1929 to 1934, with the Third Avenue Railroad Company in New York, in their engineering department; 1934, until he passed away, he was expert examiner with the Municipal Civil Service in New York City. He married me on January 19, 1916. We have no children. He was clerk of the Riverside Church, New York (Dr. Fosdick's church), for ten years and until his death was a member of the New York City Baptist Mission Society, the American Society of Mechanical Engineers, and the New York Railroad Club. . . ." Mrs. Turnbull's address is 7 Cottage Avenue, Tuckahoe, N.Y.

And now, men, we find ourselves in the unusual position for a Class Secretary of having a wealth of material to use for class notes. There is much more that we

could publish, but we have used our share of space in this issue, and will save the rest for next month. — BRYANT NICHOLS, *Secretary*, 126 Charles Street, Auburndale, Mass. HAROLD S. WONSON, *Assistant Secretary*, Commonwealth Shoe and Leather Company, Whitman, Mass.

1908

Next June we celebrate our 30th reunion. George Glover, who was chairman of our 25th reunion, is already lining up the boys for our 30th, which is going to be the best and biggest '08 reunion ever! Reunion will be at Oyster Harbors Club, Osterville, Mass., on the Cape, where we had such a good time in 1933. We plan to arrive at the club on Friday afternoon, June 3, and there will be something doing until Sunday afternoon, June 5, when we adjourn to Boston for the big, all-Tech reunion on Alumni Day, Monday, June 6. The reunion committee will shortly send out to all members of the Class more detailed information. Make your plans to be with us at Oyster Harbors next June.

The following interesting account is from A. A. Longley: "Having been forced to forgo our honeymoon when we were married, my wife and I felt — when we came to our 25th anniversary this spring — that we owed it to ourselves to go on that long-deferred honeymoon trip. Whereupon we laid out, with the aid of much alluring advertising material from travel bureaus, railroads, and chambers of commerce, a circle tour of the Pacific Coast, going by way of the southern and returning by the northern route. Doubtless many of our class members have taken this same tour, but maybe they and the rest of the fellows will enjoy reading something about the Longleys' 1937 honeymoon trip.

"Our first objective was the Grand Canyon. We rode one of the delightful trains on the Santa Fe, leaving Chicago on April 24. Arriving at the canyon early on the third morning, we spent the blustery day marveling at the magnificent grandeur of the mile-deep canyon, its brilliant coloring and the interesting, ever changing shadows throughout the great chasm. Bus excursions morning and afternoon took us along the rim of the canyon and to the Hopi Watch Tower, where we had marvelous views of the landscape, even to the snow-clad north rim, 11 miles away. The day was spent with many pleasant sightseeing companions, among them J. Foster Cole '10 and Mrs. Cole of Boston. Evening came and we resumed our journey, arriving at Pasadena next noon. We stayed with cousins of mine at their charming home in Altadena at the foot of the mountains and they organized our sightseeing very efficiently, to make the most of our week's stay with them. A particularly charming feature of our sojourn in Altadena was the breakfasts under the rose arbor and nectarine tree in the side yard. A lovelier spot could hardly be found. . . .

"A visit to the Huntington Galleries, with its wonderful collections of Gainsboroughs, Reynoldses, Romneys, Raeburns,

and Lawrences, was a particular treat, and the Huntington Gardens were lovely beyond description. Another day was devoted to an expedition up Mount Wilson, where the great 100-inch telescope of the Carnegie Institute is located, now the largest telescope in America but soon to be outclassed by the 200-inch instrument to be erected on Palomar Mountain near San Diego. Other excursions to Santa Barbara, Hollywood, Banning and Palm Springs, and Anaheim, the center of the Valencia orange district, were very interesting and consumed our time fully.

"We journeyed by train up the coast to San Francisco, through interesting country and much of the time within view of the ocean. The new streamliner *Daylight* on the Southern Pacific is certainly as luxurious and handsome a train as any I have ever seen. There were days of sightseeing and visiting here, including a pleasant call at the home of Francis E. Slayter '22 on the mountainside back of Berkeley, from which is a delightful bird's-eye view of San Francisco Bay and the bay cities and the two splendid new bridges across the Bay and the Golden Gate. Our tour took us next to Yosemite and we were well agreed that our two-day stay there furnished the high-water mark of thrills and enjoyment of our entire trip. Entering the valley from Fresno by motorbus, we visited the Mariposa Grove of giant redwood trees, some of them of unbelievable dimensions and more than a thousand years old. Evidence shown by one specimen indicated that it began growth in the year 917 A.D. Then on to Yosemite Valley, where one is almost struck dumb by the magnificent grandeur and beauty of the scene. In early May the scenery is at its best, with the freshness of spring, with the rivers and waterfalls running full and with a tang in the air and a brilliance in the sunshine that are very invigorating. We found ourselves ensconced in a comfortable little cabin at Yosemite Lodge. Situated in a fragrant grove of redwood trees, our lodging place was delightful, with every comfort desired, including an electric heater which made it cosy and warm during the chill of evening and morning.

"One can stand at almost any point in the valley and look upon scenes of wonderful beauty — the filmy delicacy of Bridal Veil Falls, the turbulent torrent of Yosemite Falls, the massive granite grandeur of Sentinel Rock and Half Dome and Glacier Point, and the soft green of the foliage of the trees on the valley floor. At the time of our visit in May, there were waterfalls, great and small, spilling over the precipitous walls of the valley wherever one looked. Some were of extraordinary height, Ribbon Falls having a sheer drop of over 1,600 feet, almost ten times the height of Niagara. One of the most spectacular events is the firefall. A huge fire of redwood logs is built at the top of Glacier Point and after dark each night the embers are slowly pushed over the precipice and they fall over 3,000 feet to the ledge below, glowing brighter as they fall and making a vividly spectacular

1908 Continued

waterfall of fire. — Our Yosemite adventure came to its end all too soon, and we shall retain pleasant memories of it till the end of our days. To anyone who is making a pleasure tour of the Pacific Coast, the Longleys urge him surely to include Yosemite in his itinerary."

G. Temple Bridgman and Mrs. Bridgman announce the marriage of their daughter, Marion Louise, to James Grosvenor Macey on June 24 in San Francisco. — We have the following changes of address to report: Professor Henry W. Blackburn, 240 Roosevelt Avenue, Syracuse, N.Y.; Rev. Herbert A. Cassidy, Canal Fulton, Ohio; Dana W. Clark, Maple Avenue, Andover, Mass.; Professor Hardy Cross, Yale University, New Haven, Conn.; Mrs. Ruth M. Denny, 501 North Main Street, Butte, Mont.; Ferdinand J. Friedman, 31 Union Square, New York, N.Y.; Charles A. Gibbon, Jr., 30-41 84th Street, Jackson Heights, L.I., N.Y.; Julian H. H. Harwood, 812 35th Avenue, San Francisco, Calif.; Lincoln Mayo, 1869 Beacon Street, Brookline, Mass.; William D. Milne, 22 Myrtle Boulevard, Larchmont, N.Y.; Robert T. Pollock, 570 Lexington Avenue, New York, N.Y.; William W. Rawlinson, Pepperell Manufacturing Company, Biddeford, Maine; Colonel Charles McH. Sreese, United States Army, Headquarters First Corps Area, Army Base, Boston, Mass.; Robert B. Todd, Post Office Box 3076, St. Petersburg, Fla.

The address of Joseph K. Heydon, whose death was erroneously reported in the December, 1936, issue, is Care of Bank of New South Wales, 47 Berkeley Square, London, W.C.1, England. We are glad to learn that our previous information was incorrect. — We have just learned of the death of George J. McTigue, which occurred on July 2, 1933, and of Francisco D. Reyes of Manila, P.I., on June 11, both of which we report with regret. — H. LESTON CARTER, *Secretary*, 185 Franklin Street, Boston, Mass.

1909

After a few months of respite the Class Secretaries again take up the job of compiling each month's news. We need your assistance in gathering information about yourself or other members of the Class. Please help us to make these notes more complete and interesting by sending in clippings or letters.

From Paul Wiswall comes the following: "Admiral Dale Ellis took the web-footed 1909 men cruising again this year in Long Island Sound, on July 17. We missed the nautical flavor that Let King gave us last year, but we picked up three of the sons of the Class: Jack Willard, Jr., Douglas Trevithick, and Ralph Johnson, Lewis' boy. Lewis brought his cabin cruiser down from Port Jefferson, but we were all able to crowd into Dale's sloop. Dale took us down to Hempstead Harbor where we all went overboard for a swim. After a sumptuous lunch, topped off by a noble array of the famous Trevithick pasties, the course was laid across the Sound to Larchmont and then back to Port Washington and Dale's anchorage.

Harry confided to us that these meat-pie pasties are what the Welsh miners live on and all I can say is that I am glad he did not confine his allotment of pasties to Course III only; we all had our share of these delicious *pièces de résistance*. Having the boys along added to the fun, and I am thinking we might have a father and son 1909 luncheon one of these days."

This summer Tom and Mrs. Desmond spent six weeks touring England, Scotland, Wales, and Ireland, going over on the S.S. *Normandie* and returning on the S.S. *Queen Mary*. Tom has undertaken the chairmanship of the alumni gymnasium fund drive, which is taking place this fall. — Mollie Scharff was also abroad this summer. — John M. Hatton was the architect for the Astoria swimming pool, built by the department of parks in New York City. The design embodied the extensive use of glass brick for privacy and ease of maintenance. — Thomas G. Chapman, professor and head of the metallurgy department of the University of Arizona, sailed for the Orient early in June, accompanied by Mrs. Chapman. His main objective was Manila, where he acted as consultant during the summer to Nielson and Company, Inc., a firm of mine management engineers organized in the Philippines last year. They already control several gold mines and a copper property. Dr. Chapman returned to Arizona in time for the fall opening of the University.

Just too late for inclusion in the July issue of *The Review* came the notice of the sudden death in May at Marquette, Mich., of Carroll Paul, husband of Helen Longyear Paul. The son of Professor and Mrs. Henry M. Paul, Carroll Paul was born in Tokyo, Japan. He was graduated from Dartmouth College and from the Thayer School of Civil Engineering. For a number of years he was in active service in the engineering corps of the United States Navy in the Philippines, Guam, and at various stations in the United States, retiring in 1922 with the rank of lieutenant commander. Since then Mr. Paul has been one of the trustees of the Longyear estate. Besides his wife he is survived by four children. The burial was in the Arlington National Cemetery, Washington, D.C.

Coming to the next generation — George Wallis' younger daughter, Frances, was graduated last June from Connecticut College. — Mrs. William Walter Bigelow announces the engagement of her daughter, Miss Barbara Foster Livermore, to Richard Lassell Shaw of Hartford, Conn., son of Mr. and Mrs. Arthur Lassell Shaw of Auburndale. Miss Livermore is a graduate of Vassar College, in the class of 1935, and of the Pierce Secretarial School. Mr. Shaw was graduated from M.I.T. in 1935, where he was a member of Delta Tau Delta and Scabbard and Blade fraternities. He is now associated with the Travelers Insurance Company of Hartford. — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. *Assistant Secretaries*: PAUL M. WISWALL, MAURICE R. SCHARFF, New York; GEORGE E. WALLIS, Chicago.

1910

It is with great sadness that your Secretary reports the passing of another classmate: On September 6, Berg Reynolds passed away in Rochester, N.Y., after an illness of four months. Berg was born in Somerville, Mass., 52 years ago and attended the Somerville schools before entering the Institute. During his four years with the Class, he was very active in Institute and class affairs and was extremely popular. He was graduated in mechanical engineering and returned after a year of work to take up chemistry, in which subject he received a degree in 1912. All those who knew Berg will miss his pleasing personality and his quiet, keen sense of humor. His business career from the time he was graduated had been with the Eastman Kodak Company in Rochester, N.Y., and Toronto, Canada, except for two years when he was engaged in business in Boston. His last position with the Eastman Kodak Company was that of maintenance engineer. He was married in October, 1917, to Gladys Chandler of Auburndale, Mass., who survives him. Funeral services were held in the Newton Cemetery Chapel, Newton, Mass. Eight classmates attended the services and accompanied Berg to his final resting place.

At the all-Tech banquet in June, the following class members were present: Charles Wallour, Frederick Osborn, Jack Babcock, A. I. Phillips, Bob Burnett, Karl D. Fernstrom, Walt Spalding, Charles E. Greene, and your Secretary. This was a far better turnout of the Class than in 1936. We hope in the coming year that the attendance will increase. This was Phillips' first return to Boston in several years. He is a consulting engineer in mechanical lines in New York City and is editor of the *American Gas Journal*. He has a son at Tech who expects to follow in his footsteps. Phillips says that he meets J. P. Maxfield frequently in New York. Maxfield is with the Electrical Research Organization of the Western Electric Company and expects to go to Hollywood on business in the near future. — Fred Osborn, who is with the Boston Edison Company, lives in Wellesley and advised your Secretary that Bob Dillon has been married within the last two years and that he also lives in Wellesley. — Jack Babcock's son will be a junior at the Institute this year. — Bob Burnett came into your Secretary's office a week or two previous to the all-Tech reunion and invited him to act as crew for the dinghy race which was held during the celebration. This race was a challenge for all classes by the Class of 1917. As your Secretary knows very little about sailing, he had to refuse. Bob was unable to get any local classmate to act as crew, so he drafted his wife and they came in first for all competing boats. He was given a trophy at the banquet.

Walt Spalding came up from New York and is still in the contracting business in that city. — John M. Gray has been appointed by the governor as one of the trustees in the department of mental

Which Class Will Have the Largest Percentage of Its Membership Contributing to the Alumni Fund?

1910 Continued

diseases, Commonwealth of Massachusetts. — The following is taken from the *Railway Age* of June 16: "There are many ex-service men present at the convention, but Col. E. J. W. Ragsdale, chief engineer of the stainless steel division of the Edward G. Budd Manufacturing Company, is undoubtedly the only one who served both with the British army in the Boxer rebellion in China and with the American forces during the World War. Born in the United States, he was educated here, in China and in Germany. His proudest boast is that he has ridden more special trains with more chambers of commerce than any other man in the country these past three years. Modesty forbids his mention of his other achievements, but it might be stated that he is the inventor of the Shotwell process, as well as holding numerous other patents for ammunition, automobile equipment, aircraft and lightweight structures. Among other things, he organized the trench warfare division of the ordnance department and started what later developed into the chemical warfare service. Oh, yes, he also introduced four-wheel brakes for automobiles." — HERBERT S. CLEVERDON, *Secretary*, 46 Cornhill, Boston, Mass.

1911

As these notes are being typed it is the next to the last day of summer and just ahead comes the annual Freshman Camp at Dunstable. This last week-end in September has come to be one of the happy spots in my life. Again this year I am able to accept the invitation to attend and teach the youngsters Tech songs and cheers and otherwise entertain them. Earlier in the summer — on July 1, to be exact — I moved "next door" from Hotel Bancroft, where I had been assistant manager, to become secretary of the reestablished convention and publicity bureau of the Worcester Chamber of Commerce. It marks an advance for me and is very congenial work.

At the annual Alumni Day on June 7 the mystical number 11 once more was in evidence, for 11 '11 men attended, making a very good showing at the evening banquet, where it was splendid to renew acquaintance with many '12 men, back for their 25th this year. The 11: Obie Clark, I; George Cumings, VI; A. V. deForest, XIII; Dennie Denison, VI; Jack Herlihy, II; Art Leary, XI; Morris Omansky, V; O. W. Stewart, I; Thorne Wheeler, X; Emmons Whitcomb, X; and Aleck Yereance, I. — Noyes Weltmer, III, 50 years old, shift boss for the Magma Copper Company at Superior, Ariz., died unexpectedly, July 17, while changing his clothes in the dressing room of the mine, after leaving work when he complained of feeling ill. Born in Santa Fe, N.M., he was a graduate of the New Mexico Military Institute, as well as M.I.T. He was a Mason and member of the Scottish Rite. Surviving are his wife and two sons, Noyes, Jr., and Frank Weltmer of Phoenix, Ariz. A fine tribute to our classmate appeared in the *Superior, Ariz., News*: "Noyes Weltmer died at the threshold of a successful mining career

and was planning to return soon. His sudden summons is, therefore, all the more regrettable as he was standing in the full sunshine of a hard-earned and well-merited retirement. He was an honest, considerate man; a devoted husband and indulgent father; a true friend and great asset to our community." Our sympathy goes to Weltmer's surviving family.

A. T. Cushing, I, an official of the United States Department of Agriculture, Bureau of Animal Industry, wrote from Kansas City in mid-July that he had just had a fine renewal of acquaintance with Ted VanTassel, X. "Ted," he writes, "is in Peoria, Ill., with Shoes, Inc., making especially good shoes for an especially low price. He and Mrs. Van were driving through to Colorado to bring their boys home from a vacation, with Ted doing some missionary sales work on the way."

— B. Darrow, VI, still with Goodyear Tire and Rubber Company, has left Akron and is again at Los Angeles as manager of technical service. He and his family — wife, 20-year-old son, 11-year-old girl — are living at 586 Winston Avenue, San Marino, Calif., and are all in fine health, he writes. His son, Jack is just starting his junior year at M.I.T. in Course XV, engineering administration. Which reminds me: My oldest boy, Orville B., Jr., 19, left to enter Bowdoin College on the first day of fall. I hope it's a good omen having his Class — 1941 — end with the numeral one!

Good old Charlie Locke '96, Alumni Secretary, sent me a couple of pages from the *Marsman Magazine*, showing a dozen or more interesting pictures taken by Jim Greenan, III, director, Marsman and Company, Inc., Manila, P.I., on an inspection trip of several months that Jim took to the Netherlands East Indies. A number of the scenes were in Sumatra and one particularly interesting one showed a parade held in Bandung in honor of the wedding of Princess Juliana. — Bill Warner, I, wrote, early in the summer to say that one of his sons was doing work at University of Colorado this summer and another was attending a geological summer school in Wyoming. His youngest son attends Shattuck Military School, Shattuck, Minn., and will be ready for college in another year. The oldest boy plans to attend Harvard Graduate School after his graduation from the University of Missouri, and Bill adds: "As he is the piano player of the family, I hope, if he goes there, he will make your acquaintance." It is also interesting to note that Bill was, last spring, elected president of the National Stripper Well Association at its third annual meeting at Tulsa, Okla. Bill, you know, operates at Nowata, Okla. — In *Life* for September 13 on page 81, appears a group of pictures captioned, "Homing American Tourists." One is of Mrs. Leroy G. Fitzherbert of Dorchester, and below it is the caption: "She is the wife of a Boston insurance man. She and her daughter had a splendid seven-week trip. 'We liked Austria and Switzerland,' they declare. 'The scenery was so lovely and the people so friendly.'

Their favorite souvenir was a sand-colored stuffed British lion." That's the wife of our Course I classmate, sure 'nuff.

Random observations: George Forristall, II, now operates from 703 Kirby Building, Houston, Texas, as George B. Forristall Advertising, instead of his former incorporation as retail sales promotion service. — Young Jack Herlihy '39 is manager of the varsity track team for 1937-1938. — Cac Clarke, live-wire Class Secretary for 1921, advises that Bill Orchard, XI, of Maplewood, N.J., has been elected treasurer of the Essex County Tuberculosis League. — When down at Worcester Union Station one morning in mid-September to greet my big son on his return from a summer at Bar Harbor, Maine, Carl Richmond, I, got off the train just to say "Hello"; he was en route to western Massachusetts on business. — Two of our mining classmates have this summer received opposite assignments for the immediate present from their respective companies: Rudolph Emmel, has returned from Quito, Ecuador, South America, to join the New York office of the South American Development Company at 19 Rector Street, while Frank Osborn, who had been on a spring vacation to the States, returned in July to Potrerillos, via Chanaral, Chile, South America, where he is with the Andes Copper Mining Company. — Aleck Yereance, I, of the mortgage division, Prudential Life Insurance Company, Boston, has moved himself and family from Belmont to 25 Garden Street, Cambridge.

So starts another volume of class notes — pretty good start, if I do say so — and the success of succeeding notes is entirely up to you and you and you, so write to Dennie! — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Worcester, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

1912

As everyone has received a brief account of the 25th reunion, there is nothing more to add except to say that your Secretary personally enjoyed every minute and is looking forward to the 30th with the keenest anticipation. — Norman L. Bowen, who took his doctor's degree with us, has been appointed Charles L. Hutchinson Distinguished Service Professor in the department of geology of the Carnegie Geophysical Laboratory, Washington, D.C. Dr. Bowen is one of the world's best-known authorities on the nature and origin of rocks, and was one of a distinguished group of international scholars to receive an honorary degree from Harvard University last September, at its tercentenary celebration. — Doc Eisenberg has at last been identified as the famous Dolphe Martin who has just returned from London. Doc — or Dolphe, as he is now known — has been associated with the Wharf Theatre at Provincetown and later conducted Paul Green's "Roll, Sweet Chariot." — Professor and Mrs. Erwin H. Schell spent a short time in Ireland during the summer.

1912 Continued

It is with regret that we note the death of John B. Glaze at Niagara Falls. John was graduated from Dartmouth before taking his degree in electrochemical engineering at the Institute. After graduation, he was with the Arthur D. Little, Inc., of Boston and the National Carbon Company of Buffalo a short time, joining the Norton Company in 1913. Surviving him, besides his wife, are three children — Donald, John, and Mary. — FREDERICK J. SHEPARD, JR., *Secretary*, 125 Walnut Street, Watertown, Mass. DAVID J. McGRATH, *Assistant Secretary*, McGraw-Hill Publishing Company, Inc., 330 West 42d Street, New York, N.Y.

1913

The only gathering of '13 men for the year was at the Alumni Dinner in Boston the night of June 7. Present were: Strachan, Rollason, McCarthy, Cohen, Townsend, Thompson, MacKinnon, Murdock, and Effie MacDonald Norton. — Joe Strachan was in Boston for the day on business and had to leave us after the soup course. Jeff Rollason is a substantial looking executive, who works for one of the branches of the Aluminum Corporation at Garwood, N.J., a company specializing in aluminum dies and castings. McCarthy, VI, has been since graduation with the Western Electric Company, 195 Broadway, New York City, in the commercial department. — Joe Cohen is with the Atlantic Gelatine Company of Boston, a division of General Foods. Joe founded this company, which handles gelatine for food, photography, pharmaceuticals, and so on, and it is bruited about that Joe has done exceedingly well in his business. — Arthur Townsend and Joe MacKinnon, of course, are respectively professor of mechanical engineering and registrar at the Institute. Joe was married this summer to Mrs. Gillson of his office staff. I am sure Joe and his bride have the best wishes of his classmates. Effie MacDonald took the medical course at Tufts and got her M.D. in 1932. She is now a practicing pathologist in Concord, Mass. Charley Thompson is treasurer and general manager of the Thompson-Durkee Company of Boston. Charley, whom I remember very well as a volatile young man, is still the youngest looking classmate whom I have seen in the past few years.

Professor Locke '96 kindly sent us the following interesting paragraph about one of his former mining students: "John Blatchford appeared at M.I.T. on August 23 and reported that he had forsaken work along straight metallurgical lines and was now in a business of his own restoring fine furniture. This includes, especially, antique furniture and decorative accessories. This sort of work has a special appeal to Blatchford, and he feels that there is a good field for it in the Midwest. He carries on this work from his home at 711 Superior Street, Oak Park, Ill. His trip East in August was a combination of business and pleasure trip, in that he was visiting historical places around New York and around New England, with the objective of

seeing old furniture and decorations and meeting people who were familiar with antiques."

I am very sorry indeed to report the passing this summer of William S. Black, III, and Samuel Breck, Jr., XI. Black followed his career in mining, which took him to many parts of North and South America. He had an office in Boston and left a widow and two sons. Sam Breck was with the Aberthaw Construction Company for several years following graduation, during which time I met him very pleasantly in Buffalo, N. Y. Later he was with the Millers Falls Tool Company, and was a former town treasurer of Middleboro, Mass. He left a widow and two sons. — FREDERICK D. MURDOCK, *Secretary*, Murdock Webbing Company, Box 784, Pawtucket, R. I.

1914

Alumni Day of this year brought back to Technology the largest number since that event has been established, and we are happy to say that of the nonreunioning classes, '14 had one of the largest groups. As you have already read about the general events, no repetition of them will be made here. Between the afternoon and evening events we had our own private party at the Hotel Statler. This proved to be a most pleasant innovation. Those attending were Aldrich, Atwood, Busby, Calver, Chatfield, Corney, Crocker (whose son also joined the dinner party), Dorrance, Fales, Leigh Hall (whose son has become one of Technology's star athletes), Hamilton, W. G. Hauser, MacKenzie, Mayo, Morrison (who entered a son this fall), Perley, H. S. Wilkins, Richmond, and our honorary classmate, Doc Millard. Charlie Fiske was prevented from getting up at the last minute, and our honorary member, William Jackson, telegraphed from Cambridge that he was unable to make the crossing of the Charles to get to the Statler. Perhaps he was more afraid of his inability to get back!

Just an even half of those attending came from outside of Massachusetts. This should serve a double purpose. The example of the out-of-town attendants should make the local nonattendants sit up and take notice and also set a good example for other out-of-towners. Next June special effort will be made to have a large attendance because of the dedication of the new building, which includes a monumental entrance on Massachusetts Avenue. Plan now to attend.

Harold Mayer loyally responded to the general letter asking for an annual letter. He is still running White Rock Lodge, at White Rock, British Columbia, which keeps him busy in the summer but leaves him with considerable spare time in the winter. Mayer writes in part: "I have taken a decided interest in philosophy and in due time I expect to write a book on the subject. I guess I shall have to show you other '14 men that old Harold Mayer has something on the hip yet."

Another interesting letter was received from Thorn Dickinson, who, after having assisted in bringing the Calhoun School,

at Calhoun, Ala., safely through the depression, has returned to New York. In addition to his financial activities at the Calhoun School, Dickinson carried on under most unique circumstances the supervision of relief work in the district. At your Secretary's request, Dickinson has written about his activities as follows: "My four years in the Black Belt were a weird experience. There I was, a Connecticut Yankee, an outspoken Republican of abolitionist antecedents, in charge of a colored school, and at the same time acting, at the request of the county authorities, as director of their New Deal relief and rehabilitation program. We got on famously and came through some very tight spots of life in 'Bloody Lowndes.' To climax my adventures I wound up as an assistant regional director of the Resettlement Administration, undoubtedly the most incompetent of all the New Deal bureaucracies. A two months' vacation in California and New Mexico has restored me to partial equilibrium, and I have for the present, at least, settled down in New York with the board of water supply on the Delaware Aqueduct project."

A third reply came from Harold Danforth, who is now with the Conversaphone in New York, and is living out at Kew Gardens, Long Island. After many years with the American Telephone Company in New York, Danforth left in 1929 to join the International Telephone and Telegraph Company at Buenos Aires, and after a year became chief engineer of the Chile Telephone Company at Santiago, Chile. By the end of 1932 the big retrenchment policy was in effect and, like a number of other Technology men in South America, Danforth found it necessary to return to this country, with the usual readjustment difficulties. Danforth has four children — three daughters and one son. He writes that in spite of his difficulties, he is full of fight and hopes to be all squared away so as to be on hand for our 25th in 1939.

A. H. Miller has returned to his home in Rockville Centre, Long Island, after a temporary stay with the Bendix Radio Corporation in Washington. Miller had another connection in view, but at the time of writing these notes your Secretary has not received any information regarding it. — Frank Ahern, who is with the office of national parks, buildings, and reservations of the Department of the Interior, was in Boston during his summer vacation and called on your Secretary. Frank was looking fine and was most enthusiastic about his work, particularly since the department has decided to add safety work to the fire prevention activities. Frank's work calls for occasional visits to the various government parks, which means an annual trip to the Grand Canyon and California. — Ted Gazarian sailed the first of May for a rather extended European trip, including a visit to Syria and Persia. Members of the Class around Boston will look forward with considerable pleasure to an early luncheon meeting to hear Ted tell about what he found in these two latter

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

1914 Continued

countries. — Bill Price has been having a very busy time. Not only has he been elected vice-president of the Air Conditioning Manufacturers Association, but as vice-president in charge of sales of his company he has been moving his organization to Syracuse, N.Y., where the Carrier Corporation is now occupying the former Franklin plant.

As your Secretary spent two months in Europe, he was not here to meet many of the Class who came into Boston. Perhaps others coming in another time will have better luck, because your Secretary is always eager to meet classmates coming here. One of those missed was Alden H. Waitt, major of the Chemical Warfare Service, who came up from Maxwell Field, Montgomery, Ala.

For the first time in many years the Alumni Association is appealing to the Alumni for really generous contributions. As part of the improvement of Technology, the Alumni have been assigned that of student welfare. You will hear more of this later. — H. B. RICHMOND, *Secretary*, 30 State Street, Cambridge, Mass. CHARLES P. FISKE, *Assistant Secretary*, 1775 Broadway, New York, N.Y.

1915

Let's give a "Regular M.I.T." with three Daltons on the end for Marshall B. Dalton, new President of the Alumni Association. To Jack from his Class go best wishes for honor and glory in this position and success for an outstanding year as president. This is a signal honor, and Jack, if not the youngest, at least is one of the youngest Alumni to achieve this honor. Our Class certainly can feel proud of Jack.

Reliable San Willis, while recently in Boston from New York City, phoned me about some of our men down there: Frank Parsons is doing well in his new position selling aluminum foil for building insulation. Erudite St. Elmo Piza, "one of the few remaining 'single' bachelors in the Class," is teaching at New York University. Jim Tobey carries on at the Borden Company and in a recent trade paper had an interesting article about milk and those famous multiple babies, the Dionne quintuplets and the Casper quadruplets. Lest the former have overshadowed all other such claims for publicity, the Casper quadruplets live in Passaic, N.J. Don Perin has added his weight to our New York City contingent, but San says he is as good-natured as ever. Jim Neal recently visited San from his stronghold in Lockport, N.Y. Sam Berkowitz has been very successful with Old Mr. Boston products.

At the Alumni Day dinner in Boston in June we had a disappointing representation: Only Gabe Hilton, Archie Morrison, George Rooney, and I were there. Max Woythaler had planned to come but couldn't make it. Too bad more of us were not around to give Gabe the reception he expected. — Last May from far-off Tokyo, Shigemaro Nagahama wrote that he is now at the Imperial Institute of Technology, Port Arthur, South Manchuria. At that time it was fascinating to

think of one of our men in that far-off land, but now I am sure we are all genuinely concerned regarding him and our other classmates in scenes of conflict. — Francis Hann is now an attorney at 217 East 17th Street, Los Angeles, Calif., and extends his cordial and best wishes to all our men. This work is indeed a departure from his early engineering training.

The Secretary must always be ready for corrections. Alfred H. Clarke writes from Omaha, Neb., to tell us that at least one 1915 man resides in that state. He is with Bemis Bro. Bag Company. — Harold B. Pickering, who, you will remember from our past notes, has been running a summer hotel in New Hampshire for the last four or five years, has given it up and has returned to Ithaca, N.Y., to enter the oil-heater business. While passing through Boston he phoned me and we had an interesting talk. It's nice to have the boys remember me like that.

Little Andy Anderson, the sand hog in the New York tunnels, who despite his diminutive size certainly cut a big swath at the Saybrook reunion, writes this good letter: "When I saw no class notes in a recent Review, I hoped nothing had happened to our overworked Secretary. However, I believe the 'no news' has brought the fund matter to mind. You say I am in the A or B group. Well I don't know which one I am in — A, B, or C — but I don't believe I ever got an A in my life. If you had an F class, I would know where I belonged (and, Andy, I personally could join you in an FF class, if any). I do hope that the 1940 reunion will be a success and I will do my best to be there. I am still working on the tunnels. There is no news in particular except that Charlie Williams and I were the only 1915 representatives at the alumni dinner here in New York some time ago. Remember me to the gang and to George T. (that's Bridegroom Rooney to you)." Andy's letter brings me to speak about the fund for the coming 25th reunion in 1940. Being Secretary of the Class, trying to keep it going, collecting money, and running the reunions is no easy job, but you all know I enjoy the work and I am glad to do it, but in return you have to do your part. It's very little the Class asks and very seldom that the Class asks for it. The returns from our first mailing for contributions toward this fund have been disappointing and discouraging. When you read these notes will you find my original letter in that pile of papers on your desk and send your check. No matter how you felt in the past, surely you must realize that the 25th reunion of a Class is an important event. At Technology we do not hold such elaborate reunions as other colleges, but do let's make our 25th a memorable occasion. Let my plea touch a loyal response; send me your check. — AZEL W. MACK, *Secretary*, 40 St. Paul Street, Brookline, Mass.

1916

The New York *Times*, issue of July 14, carried the notice of the death of our classmate, Charles O. Cornelius, who was

connected with the Metropolitan Museum of Art, New York City. At the Institute he was graduated from Course IV. — During the summer your Secretary received a clipping from some member of the Class, taken from the New York *Times* of June 27, conveying the important information that our own Dave Patten acted as chief marshal on June 26 for a grand parade which climaxed a three-day celebration at Duxbury, Mass., in commemoration of the 300th anniversary of the incorporation of the town. Apparently our Dave must be a well-liked and well-known citizen in Duxbury.

The following information was not sent in by Bob Wilson; I gathered the information personally from an article in the New York *Times* of Sunday, August 1. Bob is building a very substantial, Colonial, stone-and-timber residence in the Oak Ridge section of White Plains. The house will contain 14 rooms and four baths and will be ready for occupancy some time this fall. It looks as if Bob were expecting a lot of his classmates to pass through White Plains and call on him. There certainly should be room for many of us in a home of this size.

Our Class was well represented at the Alumni Dinner, June 7, at the Hotel Statler in Boston. Those present were Joe Barker, Hovey Freeman, Dave Patten, Francis Stern, Bob Wilson, Hy Ullian, Louis Stedeter, Murray Horwood, P. Gooding, Shatswell Ober, Don Webster, John Fairfield, George Waymouth, and Steve Berke.

At our reunion in June, 1936, it was agreed that each member of the Class would write a short biography and send it to Walt Binger, to whom was assigned the job of editing and compiling these, having them available for our 25th reunion. Those of you who have not started work on such a biography should get busy at once. If mailed to your Class Secretary, they will be forwarded to Walt Binger. Several of these have already been received.

Ralph Millis is district engineer for the United States War Department at Wilmington, N.C. Previous to his Wilmington assignment he had seen service in the midwest and southern states, in the Republic of Panama, and in the Canal Zone. Ralph is married and has two small daughters. Work under his jurisdiction includes river and harbor work for most of the North Carolina Coast. He holds the rank of major in the Corps of Engineers, is a member of the American Society of Civil Engineers, the Society of American Military Engineers, the University Club of New York, the Century Club (Panama City), the Carolina Yacht Club, and other clubs. He is an honorary member of the Wilmington Chamber of Commerce and president of the Wilmington Rotary Club. This sounds like a rather formidable list and is a challenge to other members of our Class. Any member who thinks he can compete with Ralph for club and civic connections will please forward his list to the Class Secretary. — JAMES A. BURBANK, *Secretary*, The Travelers Insurance Company, Hartford, Conn.

1916 Continued

STEVEN R. BERKE, *Associate Secretary*, Coleman Brothers Corporation, 245 State Street, Boston, Mass.

1917

Such was the wholesome success of the reunion that it has been agreed to hold another at the same place next year and presumably in subsequent years. Comments here made serve to remind participants of pleasant details — otherwise temporarily forgotten — but it is beyond the ability of your Scribes to give absentees any adequate impression of the event. It would be easier to attempt a written impression of one of the masterpieces in Paul Gardner's Gallery of Art. The attendance was good in spite of the absence of high-pressure propaganda, with a total of — but numbers mean nothing. We have become accustomed to a good showing of '17 men and apparently so have others. R. E. Wilson '16 remarked at the Tech Club-American Chemical Society luncheon at Rochester that he would like once to go to an M.I.T. gathering where he and his classmates were not surrounded and outnumbered by a noisy group of 1917 men. Our sympathy goes out to him and we are glad for his sake that he can have no full knowledge of what he missed by entering 12 months too soon. Frank Scully '15, who was present for a part of the reunion, is at least mildly aware.

Harrison Prescott Eddy, Jr., rose to the heights on nomination by Past President Leon L. McGrady and was in due form elected president. The new chief executive has a mighty precedent and tradition to uphold. Also interesting to the few persistent Review fans who read these notes was word that Philip Hulburd of Phillips Exeter was elected assistant secretary, and so now the flippant, casual, and, we fear, oftentimes irritating character of these notes will be offset by whole sections reflecting the calm intellectual atmosphere of the academic community in New Hampshire, tinged heavily with the pleasant philosophy that is Phil's own. With this improvement in the secretariat, some malicious soul succeeded in passing a motion that the present secretaryship be given deathly permanence. What, if anything, it all means, remains to be seen.

As usual, there were notable absences, perhaps most notable that of Edward Pennell Brooks, an absence so serious that a telegram was sent to Mrs. Brooks urging her to act as proxy. John Milton DeBell was also unable to be on hand. A wire from J. Worthen Proctor at Port Clinton, Ohio, sent greetings and best wishes. Photographers were rampant and Ray Brooks derived enormous satisfaction from waving foreign film packages under the very nose of one of Eastman's best sales executives. Black-and-white and colored stills and several varieties of movies were taken. Photostats of some of the prints are being sent out to prepaid subscribers, and some of the movies and the colored slides will be shown on subsequent occasions. They are well worth seeing, and particularly beautiful are the

shots of Paul Bertelsen's Manchester estate. The full glory of the rhododendrons and azaleas seems reproduced. Which leads to a note that to many the most joyous high light was the Sunday morning when the Bertelsens acted the gracious hosts in an ideal setting on one of the best days in the year. More of that later, when it can be treated with more nearly the adequacy it deserves.

With your permission, two communications will be quoted: the second, a letter from Ras Senter, sent true to his promise and reflecting the genial Texan's typical reaction to the glorious week-end; the first a wire from Dud Bell who, as usual, contributed color to the party. Of his wire we will say only that it, also, is typical: "Arrive Boston noon tomorrow. Reserve room for me Marblehead. Must be near McGrady. We are putting on a show Saturday night. Same must be worked up. Look forward to seeing you. Please count me in on Bertelsen's party."

And now from Ras: "Just a line to let you know how much I enjoyed our 1917 class reunion last June at Marblehead, Mass., and especially how much I appreciated the hospitality of the reunion committee and the other boys who helped to make it such a huge success. It seemed to me that everyone present had a most enjoyable time, but the outstanding feature of the occasion to me was the privilege of again meeting so many members of our Class whom I had not seen for 20 years. Perhaps we are all growing old together and, therefore, do not particularly note the aging of any one classmate, because, as far as I could tell, every member present seemed to be about the same good fellow that he was when we graduated. Perhaps the spirit of the occasion turned back the years. Certainly there has been some maturity due to the responsibilities of battling a most complex business world during the past 20 years, but in no case could I find any lack of that good spirit and fellowship which binds all of us so closely together. It was indeed a gala occasion and I only hope that we may all have the privilege of enjoying another such reunion in the years to come. I again wish to express my appreciation of the hospitality and thoughtfulness of the committee and all the boys who so generously contributed to our comfort."

As publisher of *Fortune*, 1922's Hodgins might remark: "To crap-shooting Tycoon Ham Wood, chairman of arrangements, all credit for management for this grand-glorious party." — RAYMOND STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass. PHILIP E. HULBURD, *Assistant Secretary*, Phillips Exeter Academy, Exeter, N.H.

1918

Alumni Day on June 7 was climaxed by a banquet to which flocked Ralph Mahony, Ray Miller, Carlton Tucker, Harold Atwell, Harold Weber, Tom Kelly, Julian Howe, and Jack Hanley; there to line their stomachs with costly groceries and to fill their ears with after-dinner speeches. Talk naturally centered

around our 20th reunion, now just over the horizon, and the necessity for getting some committees into action.

There is a house on Brush Hill Road, Milton, which, so the whisperings say, was designed by our own Royal Barry Wills. It would have been so easy to have telephoned for corroboration or denial, but that would have spoiled a tale worthy of being told by a jovial friar over a mug of wine. For had the story been denied, truth would have forbidden the telling; and had it been corroborated, kindness would have done the same. So, merely repeating idle words, here followeth ye merry yarn: Somebody bought a lot that was in the middle of many houses of early American design and which was too small at that. The building constructor stopped construction because the proposed dwelling was within three feet of the lot line all around. Finally there arose a modernistic, hard-lined dwelling, sharp and graceless, amid these gentle early American domiciles; a rash child born into an unappreciative environment. It was modeled after the houses in Gloucester, England — flat roofed so the fishwives could go aloft to watch for their husbands' returning. (Why they wanted to see their husbands' returning is not a part of this anecdote.) The kitchen is half a story below the street level; the living room, half a story above; and the bedrooms lie along an intriguing corridor at street level, after the most approved fashion of a British Pullman car!

There is much activity about the campus. The School of Architecture is in a hole bordering Massachusetts Avenue, from which will presently rise a building suitable to serve as the main entrance, as well as the home of the School which has more architects in "Who's Who in America" than any other. Also afoot are plans to invite the Alumni to raise over a million dollars for a sorely needed new gymnasium. Of this you are hearing from other sources.

Your Secretary now has a child in Wellesley College and would welcome the opportunity to record the names of those others of the brethren who are borrowing on their life insurance in order that a freshly starched youngster may become cultured in Tudor or Georgian surroundings. Is there among us yet the father of an M.I.T. freshman? Are there candidates for the Class of 1942? We shall have part of our flesh and blood and a little of our soul, too, in the Class of 1943. — F. ALEXANDER MAGOUN, *Secretary*, Room 4-136, M.I.T., Cambridge, Mass. GRETCHEN A. PALMER, *Assistant Secretary*, The Thomas School, The Wilson Road, Rowayton, Conn.

1919

Well, fellows, hope you all had a fine vacation this summer. Yours truly drove down to Miami and took the boat to Havana for a few days. Both the wife and I thoroughly enjoyed the trip. On the way back I talked with Eddie Pierce over the telephone in Washington, and things seemed to be progressing very nicely for him in the new location.

Alumni Are Raising \$1,650,000 for a Technology Gymnasium and Other Recreational Facilities. If You Have Not Subscribed, Increase Your Class Total Now.

Another one of our supposedly confirmed bachelors is now enjoying matrimonial bliss, as is covered by the following item which appeared in an issue of the *Boston Herald* this June: "Miss Elizabeth Collins, daughter of Dr. and Mrs. Richard Collins of Waltham, became the bride, Saturday evening at eight o'clock, of Mr. Chester Cameron Stewart, son of Mr. and Mrs. Frederick J. Stewart of West Medford, in the First Parish Church (Unitarian), in Waltham. . . . Mr. Cushman Morse of Concord was best man for Mr. Stewart and the ushers were Dr. Richard Collins, Jr., brother of the bride; Mr. Paul Martini of Boston, Mr. William Jewell of Cambridge and Dr. Alden Q. Abbot of Waltham. Mr. Stewart and his bride will reside in Dover. Mrs. Stewart attended Wellesley College and the University of Florence in Italy. Mr. Stewart attended the Massachusetts Institute of Technology and the University of Stockholm in Sweden." Best of luck, Chet, even if you are a competitor!

The following interesting clipping appeared in the *China Press* in Shanghai in April: "Mr. C. P. Hsueh, newly appointed Engineer-in-Chief of the Whangpoo Conservancy Board, will take over his duties early next month, succeeding Dr. Herbert Chatley who announced his resignation yesterday owing to family considerations. Mr. Hsueh has been assistant to Dr. Chatley since 1929. A graduate of Tongshan University, '17, and Massachusetts Institute of Technology, '19, Mr. Hsueh has had a sound background in conservancy work and practical experience. After returning from America in 1921 he spent three years in Tsingtao as engineer to the Tsingtao Harbor Works. At the end of that period he became principal assistant engineer to the China International Famine Relief Commission which post he held until 1929. . . ."

The Secretary received a questionnaire from Malcolm R. McKinley, XV, who is now general superintendent of the lighting department of the Tampa Electric Company, Tampa, Fla. Mal has three children — Malcolm, Jr., nine years; Louise, seven; and Donald, three. He is secretary-treasurer of the Technology Club of Central Florida, but knows of no '19 men in the vicinity. Although I haven't been through the 415 cards of the Class for some time, I do not recall any other members located in your vicinity at present, Mal, but will let you know if any move down that way. Thanks a lot for your offer of assistance, and hope you will be able to arrange a trip North to our 20th reunion.

We are running low on class notes, fellows; how about sitting down today and dropping us a line about yourself and any others of the Class who are known to you. — ARKLEY S. RICHARDS, *Secretary*, 26 Parker Street, Newton Centre, Mass.

1920

Although we may be getting older, I see no evidence that members of the Class are slowing down or staying put. In fact, since last spring there seems to be

more than the usual amount of shifting around. John Nalle, who was running the Placement Bureau at the Institute, has moved to Newburgh, N.Y., where he is living on a farm but interested in the lawn mower business. — Charles Lawson has left Buffalo and has moved to Boston. He is with the International Business Machines Corporation. — Donald Graves has gone from Keene, N.H., to Hollywood. Must be quite a contrast! — Henry Erickson is in London and may be found at Suite 133, Bush House, Aldwych. — Ray Davis' new address is 14 Charlesgate West, Boston. — George Anderson has moved from Boston to 7112 Ninth Street, Northwest, Washington, D.C.

George Brown has moved from Chicago to Cincinnati. — M. B. Littlefield is now living at 8 Highwood Way, Larchmont, N.Y. — Josh Welch has returned to his old haunts on Tonawanda, N.Y. I believe his office is in the Metropolitan Building on Tremont Street, Boston. — Bob Turner has come back to New York from Chicago and is with the M. W. Kellogg Company. — Donald Ferris is now in Tarrytown, N.Y., having left Detroit. — Jim Downey has moved from Woodbury, N.Y., to Tuckahoe, N.Y. — Bill Dewey is now in Massillon, Ohio. — Ernest Bangratz has left Pittsburgh and is now living in West Orange, N.J. — Leland Gilliat is still in Maine, but may now be found at Cape Cottage. — W. M. B. Freeman is still in Virginia but has moved to Alexandria. — W. Myron Davy, who was in Mexico, is now in Norwalk, Conn. — William S. Johnson, who was in Pittsfield, Mass., is now in Philadelphia. — Arthur Morley's present address is 2810 59th Court, Cicero, Ill. — I recently learned that Carl Leander is living in Quincy at 145 Whitwell Street, and Henry Hills is living in Reading, Mass., at 273 Franklin Street.

I may have mentioned before that Bat Thresher is now Professor Thresher, Director of Admissions at the Institute — a man-sized job and I understand very capably handled by Bat. — D. D. Williamson, who was formerly head of the Texas State Highway Laboratories, has recently been put in charge of the Dallas office of the Asphalt Institute. Speaking of Texas brings to mind a plaintive note I received last June from Dusty Miller, charging me gently for stating in these notes that he lived in Texas. Dusty says: "It is true that Texas is a suburb of Arizona but it is bad enough to have a daughter who pronounces 'hear' in two and a half syllables without making it three and a half." Let me humbly apologize and hasten to inform you that Dusty is a Johns-Manville tycoon and his address is 1833 North 13th Avenue, Phoenix, Ariz. Ken Clark is another big shot with Johns-Manville, his headquarters being at New York, although he travels all over the lot. — Henry Massey finally got married last June in Montclair, N.J., to Miss Marry Winslow Greene, a Vassar graduate. Congratulations, Henry!

Last spring I got an interesting letter from Samuel Schenberg, who is vice-president of the Chemistry Teachers'

Club of New York and is with the Bay Ridge High School of Brooklyn. He says that Leo Kahn is doing radio work; that Dave Kaplan is with his father, manufacturing jewelry; and that Henry Leigh is patent attorney for the United States Rubber Company. Schenberg says he has seen Aaron Tushin, who is in Washington as a government patent attorney, and he has also been in touch with Harry Kahn, who owns the Tile Products Company in Matawan, N.J. — It is with sorrow that I must report the death of Commander Robert W. Ferrell on May 31. He was drowned in the vicinity of the Navy Yard at Charleston, S.C.

Your Secretary's last year's record of appearance in *The Review* was probably the poorest since he has been in office. I'll gladly make a better showing this year if you will give me something to write about. Let me say again that I would rather resort to facts than imagination. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

1921

In deference to the request of *The Review* Editors for brevity in these November notes, here's a short but nonetheless sincere welcome to these pages before we dive into the news.

From the *Boston Herald* of June 20 we learn that John MacDuffie Sherman, son of Charles W. Sherman '90 of Belmont, was married to Miss Rosabel Elizabeth Kochersperger, daughter of Mrs. Emma M. Kochersperger of Belmont, in the First Church of that town. Richard W. Sherman '26 served as best man for his brother, and our own Oscar F. Neitzke was one of the ushers. The bride attended Wheelock School and Boston University. After receiving his degree from the Institute, John studied at the Harvard School of Business Administration and is now with the New York, New Haven and Hartford Railroad in the South Station offices in Boston. On their return from a wedding trip, the Shermans will make their home at 86 Clifton Street, Belmont, where our congratulations and best wishes are addressed.

From the *Herald* of July 11 we note the following: "Mr. and Mrs. John Abbott of North Easton announce the engagement of their daughter, Elise, to Mr. John W. Shepard of North Easton. The wedding is planned for late summer." More congratulations and good wishes from all of us. — Under the pressure to condense these literary efforts (and the dearth of letters from you), we pause here to concentrate on the succeeding issues of this volume — assuming, of course, that you will assist by sending in a card or letter now. — RAYMOND A. ST. LAURENT, *Secretary*, Rogers Paper Manufacturing Company, Manchester, Conn. CAROLE A. CLARKE, *Assistant Secretary*, 10 University Avenue, Chatham, N.J.

1922

The Sheldon House — Pine Orchard on Long Island Sound — and the fairest of weather when good fellows got together 100 strong for the 15th. Memories of care-

1922 Continued

free comradeship will sustain us until the next short five years have rolled around. The statistics: 53 tired and thirsty arrivals Thursday night (I'm sure I counted three times as many); a total of 80 pleasure seekers by Friday; swelling to the grand total (by sober, Sheldon House count) of 104 for the Saturday night finale. The delegates from the vicinity of New York outnumbered those from Boston. Why should this be? The long-distance record went to Allen King from North Dakota, while Pinky Pinkham's family didn't know he was away because he lives within a mile of the Sheldon House and always acts that way anyhow. It took the mail-order astuteness of Al Browning from Chicago to win the free ride by the closest guessing of the distance from Newark to Pine Orchard. (Al generously declined the award, demonstrating that the depression is over in Chicago.)

The tennis finals were truly international, with Roger Carver of Shawinigan Falls, Quebec, winning a hard battle from Sam Vadner of New York City. Bill Bainbridge directed the golf with professional éclat. He reported about 50 self-styled golfers each day. The kickers handicap on Friday resulted in a four-way tie: Hughes, Vilett, Walker, and Rundlett, with Rundlett winning the draw with 98 gross, 78 net. The Saturday kickers produced a tie between Hemeon and Spier, the former winning the toss-up with 119 gross, 74 net. Burroughs, Flather, Shirey, and Murley all tied with 31 for the putting contest, Murley winning by a lucky draw. Brothers who hesitate to display their golf in fast reunion company should note that to be quick on the draw is better than being mighty with the club. To quote Manager Bainbridge: "At the repeated insistence of Mr. Hugh Shirey, an unscheduled event was added. In fairness to Mr. Shirey let us say the event was added Friday, open to competition during the two days. The prize was underwritten by that well-known financier and promoter, Mr. Dunc Linsley, and was a silver cup of tremendous size and Democratic fineness, properly befitting the splendid consistent performance of the winner. This event was low gross. Mr. Hugh Shirey, who suggested the game, reported two 81's each for 18 holes, followed closely by Murley 82, Sid Strauss 83. As this is the first prize Mr. Shirey has ever won, the S.E.C. will investigate."

Dana Sawyer flat-footed his way to victory in the obstacle race, which is all the more glorious since the contest was held just outside the bar. — The treasure hunt (Al King bruised his knee badly but recovered to attend Alumni Day in Cambridge) was admirably planned and flawlessly executed up to the last and final clue. There the two imaginary lines just wouldn't intersect at the spot on the shore where the treasure was buried. At last the hand-sore and back-weary diggers revolted when the excavations threatened to alter the entire shoreline of the Sound. With all claims to the fortune forfeited by the hunters, the burial committee (Dewey

Godard, Dino Spalding, and Harry Acheson) spent a feverish half hour turning over the remaining sand and finally surprised themselves by uncovering the missing treasure "right where they had buried it." Dino's piscatorial venture (6 A.M., Ha! Ha!) produced four and three-quarter yards of just plain fish (17 by candid camera) but the added sunburn wasn't noticeable. Hard hitting was the order of the baseball game whereby Course XV, Captain Horn *in absentia*, out-putted John Sallaway's Course II, possibly because they had the best ringers. Movies of the 1922 commencement activities and the two previous reunions were shown twice. From them the painful fact was evident that the gray are growing grayer, the bald balder, and everyone is growing older.

It is interesting to review these many events and to consider in retrospect the smoothness and detail which characterized the entire reunion. It is concrete evidence of the many hours of thought and hard work given to the job by Heinie Horn. He received the unstinted acclaim and appreciation of the Class assembled. He, in turn, gratefully acknowledged the assistance of his advisors: Rundlett, Kurtz, Bainbridge, Chittrick, Davis, *et alii*; and of his henchman, Harry Acheson, who by his cheerful attention to every detail kept everything and everybody on an even keel, and who was rewarded by honorary membership in the illustrious Class of 1922.

We saw many familiar faces for the first time in years. For some, this was their first reunion; others had missed the fifth or the tenth, and some of the regular customers were unavoidably absent. Lee Carroll, whose attendance was prevented by sudden illness in his family, sent Heinie a jocular telegram extending best wishes to the gang and promising to be on hand in 1942.

The serious note of the reunion was the quinquennial business meeting. It was generally felt that if responsibility for the administration of class affairs was distributed over a larger and geographically dispersed group, then not only would the President's burden be lightened but the Class would benefit both individually and as a whole. Accordingly, the following offices were established and filled by election (all from the same locality to facilitate concerted action): President, Henry J. Horn, Jr., Newark, N.J.; First Vice-President, John Sallaway, New York City; Second Vice-President, Frank Kurtz, New York City; Secretary, Clayton Grover, New York City; Treasurer, Everett W. Vilett, Newark. These officers constitute an executive committee with the usual powers. It is the duty of this committee to appoint regional assistant secretaries who will be responsible for class propaganda and activity in their respective areas — more of which later.

While the reunion is still fresh in mind is the time to make criticisms and suggestions. Write your ideas down now and send them to the Secretary. Another thing: Will those who took 16 millimeter movies, either colored or black and

white, let the Secretary know whether some time soon you will loan the films long enough to have copies made of the good shots to incorporate in the class film library.

Your Secretary lacks the eloquence to describe the 15th reunion justly. The reunioners themselves have their own vivid memories. Let those who could not attend weave the glamorous story between these bare and feeble lines. Let all vow to be "where good fellows get together" for an even more memorable 1942. — CLAYTON D. GROVER, *Secretary*, Whitehead Metal Products Company of New York, Inc., 304 Hudson Street, New York, N.Y. C. YARDLEY CHITTRICK, *Assistant Secretary*, 77 Franklin Street, Boston, Mass.

1923

Machinery, a British engineering journal, takes two columns in its August 12 issue to describe the Paris firm of Markt and Co., Ltd., distributors of engineers' tools in France and North Africa. George J. Leewitz, II, is general manager. — Anna Mohr Branzell, IV, reports from Göteborg, Sweden, that she has been practicing architecture there since 1923, partly alone and partly in association with her husband, who is city planning architect of Göteborg.

Paul J. Culhane, V, was married on Thursday, July 8, in Washington, to Helen Louise Prentiss, sister of Spencer S. Prentiss '31. — Clark Kittrell, I, succeeded in July to the position of United States district engineer in charge of the Fort Peck Dam project in Montana. Major Kittrell has been chief of operations on the project since its start. — HORATIO L. BOND, *Secretary*, 18 Jefferson Road, South Braintree, Mass. JAMES A. PENNYPACKER, *Assistant Secretary*, 96 Monroe Road, Quincy, Mass.

1924

Following a recent exchange of letters with Bill Robinson, a plan has been worked out to promote a wider coverage for class notes, on a geographical rather than a course basis. The Secretary has, accordingly, written to the following men to ask them to serve as assistants: John Fitch, Washington; Bill MacCallum, Philadelphia; Doug Elliott, Birmingham; Ingram Lee, Dallas; Bill Correale, New York City; Fred Hungerford, Upper New York State; Paul Cardinal, New Jersey; and Jack Spaulding, Chicago. While a few are still to be heard from, the responses indicate enthusiastic approval of the idea, and before long, notes should be coming in volumes. The help of members of the Class in these areas in reporting happenings about themselves or other members is, of course, necessary.

A recent letter from George Parker outlines his interesting career since 1924. Following a thesis on the Bedeaux plan of wage payment, George worked with Charles Bedeaux on the West Coast for two years, later returning to a firm of Boston accountants. After making a survey for United States Rubber, he worked

Which Class Will Have the Largest Percentage of Its Membership Contributing to the Alumni Fund?

1924 Continued

for that company for some years as superintendent of various plants, leaving two years ago to join the American Woolen Company. His last move, made in August, brought him the title of assistant to the president of the Casco Products Corporation of Bridgeport, Conn. — FRANK A. BARRETT, *General Secretary*, 50 Oliver Street, Boston, Mass.

1925

It is with much trepidation that I assume the secretaryship of our Class, which, as most of the readers of *The Review* will realize, has broken into the columns of class notes most infrequently during the past years. Our President, Richard P. Price, was at the Institute during the 1936-1937 year taking graduate work under Professor Schell '12. As a result of this graduate study, he was able to give me such a sales talk that he finally sold me the idea of undertaking the job as secretary. With the assistance of the members of the Class, I am sure that we can keep the Class in the limelight. Make it your duty to send me news concerning yourself and classmates.

Perhaps the following letter from M. B. Crum, XV, will bring news from other 1925 men. It reads: "After reading issue after issue of *The Review* without seeing anything from our Class, I get to wondering if all members are mere ditchdiggers and ashamed to let their whereabouts be known, or so prosperous that they think everyone knows all about their achievements. As for yours truly, after working for about a year and a half for Westinghouse Electric in various plants from Sharon, Pa., to Philadelphia and finally at Tampa, Fla., I left the company to become actively connected with the largest industry in Florida — the raising and shipping of citrus fruits. And my present position is that of manager of the Vero Indian River Producers Association at Vero Beach, Fla. Approximately one third of all the Indian River fruit being sold in Greater Boston has its face washed, body waxed and dressed with manila-colored tissue, and its cheek stamped either Florigold or Flo, in our packing house.

"The summers prior to coming to Vero Beach from my former home at Bartow, I made an auto trip covering 13,000 miles and visiting 30 states, northern Mexico, and the Canadian Rockies. And in the winter of 1930-1931, I had the good fortune to be sent to Palestine to install packing-house machinery manufactured by what is now Food Machinery Corporation. After spending about five months in the Holy Land, and covering it from Dan to Beersheba, I went down and climbed the Great Pyramid and rode a ship of the desert (you'll get seasick too, if you don't watch out, from the to and fro motion), returning through Europe via Istanbul, Greece, Italy, Switzerland, Germany, and England, having visited a total of 15 countries since leaving the States. In 1934 I married a 'Georgy-school-teacher' and on June 11 that proverbial old bird, known as Mr. Stork, delivered Dan Wood to our home. Ere this is

printed in a fall or winter issue of *The Review*, I shall have taken a summer vacation to Puerto Rico, on one of the Bull Line steamers, and that as a non-paying guest of the Bull Line because of the tonnage they handle for the VIRPA from Fort Pierce, Fla., to New York City. How about some more news . . . ?"

An article in the *New York Times*, dated May 25, gives the following story of one of our members from Course IV: "Georgina Pope Yeatman, not many years ago, couldn't get into the University of Pennsylvania School of Architecture because she was a girl. But a year ago she became director of city architecture here in America's third largest city. She sits on the Philadelphia Zoning Board and is also a member of the commission appointed by the Mayor for development of the municipal airport at Hog Island as an air-rail-marine terminal. Besides becoming one of her State's four licensed women architects, after study at Massachusetts Institute of Technology, she learned to fly. Obtaining a plane for quick week-end trips to her parents' summer home near Jaffrey, N.H., she got a new slant on architecture and gardens from the air, and combined this pleasure with her profession. She designed the Philadelphia Aviation Country Club. Flying over last Spring's floods, Miss Yeatman dropped food and medicine to isolated sufferers and made relief surveys. In five years she has had but one accident: Forced down by motor trouble, she did a dead-stick landing near Kenett Square, Pennsylvania, crashed through a fence and into some farm machinery, emerged with scratches, and called it nothing to get excited about."

The Class was represented at the all-Technology reunion last June by F. M. Rice, F. W. Cunningham, H. T. Mann, and your Secretary. This shows some improvement over our representation in 1936, but is nowhere near the number we should turn out. Let's do better next year. F. M. Rice is working in the United States Engineer Office in Boston and F. W. Cunningham is employed as physicist with the Arma Engineering Company, Inc., of 254 36th Street, Brooklyn, N.Y. He was to take his thesis exam for the doctorate in physics, the day following the reunion. Mann and yours truly are still holding forth in the Mining Department at the Institute.

Announcement has been received of two weddings during June: On June 2, Robert Lawrence Rockefeller, IX-B, was married to Miss Maida DuGaust Cain, daughter of Mr. and Mrs. John W. Cain of Boston, in the chapel of St. Bartholomew's Church, New York City. On June 26, Joseph John Wickham, I, of Scranton, Pa., was married to Miss Sara B. Brewer, daughter of Mr. and Mrs. Vincent C. Brewer of East Hartford, Conn. The wedding took place at the Brewer home. Theodore E. Simonton '24, X, was best man, and Richard T. Lassiter '24, I, was one of the ushers.

Professor Locke '96 provides the following information: "James Gordon Creveling reports that he is leaving the employ

of the Compania Huanchaca de Bolivia about the first of July, but instead of returning to the United States as he had originally planned, he is entering into partnership with another mining engineer, with the objective of operating some small mines in that country. If things work out as they anticipate, he may remain in Bolivia for a considerable period. During the spring Mrs. Creveling and the oldest boy were very ill with paratyphoid, and Creveling had the double job of acting as chief nurse and carrying on his regular work. When he wrote in May, both of them had improved and had gone to Chile to complete their convalescence."

M. C. Conkey, Jr., I, paid me a short call at the Summer Mining Camp, Dover, N.J., on Labor Day. He is employed by the Baltimore and Ohio Railroad and is in the bridge department with headquarters in Baltimore. He had been spending a few days with A. W. Baker '26, X, chemist with the Hercules Powder Company, Kenil, N.J., and both of them stopped in to look over the camp. — The Boston newspapers have carried several items during the past summer regarding the superservice station which Sears, Roebuck and Company recently opened in Back Bay. A. A. Lauria, II, has been placed in charge of this new station, and from all appearances he has quite a responsibility on his hands.

Two more of our wandering mining engineers have been heard from: Jesse L. Maury has left the Securities and Exchange Commission in Washington and is now with the Lehman Corporation, 1 South William Street, New York City. In June, Maury received his master of science degree in business and engineering administration. Gilbert W. Noble has recently been appointed assistant professor of petroleum engineering at the Missouri School of Mines, Rolla, Mo. — F. LEROY FOSTER, *General Secretary*, Room 6-202, M.I.T., Cambridge, Mass. HOLLIS F. WARE, *Assistant Secretary*, 25 Valley Road, Medford, Mass.

1926

The marriage curve of the Class has not yet approached its asymptote, as this summer revealed. Beginning with June 22 and ending with July 15, four marriages occurred: The first, that of John P. Larkin to Miss Edith Wright Walsh, took place in Brookline, Mass. Mrs. Larkin is the daughter of the late and noted ecclesiastical architect of Boston. She and John will live in New York where he is engaged in metallurgical work. — Four days later Earl Wheeler of Hartford, Conn., was married to Miss Frances Muhleib in Greenwich, Conn. They spent their honeymoon in Europe, traveling with Bud Wilbur and his wife. — On July 12 Wesley Hemeon was married to Miss Catherine Agnes Daunt of Dorchester, Mass. They are at home at 123 LaGrange Street, West Roxbury, Mass. — Finally, on July 15, Natale Gada was married to Miss Mabel Agnes Clark in New Haven. Natale is with the General Electric Company, working out of Bridgeport, Conn.

The Secretary had the pleasure of seeing a number of the members of the Class here at the Institute this summer. Most unexpected was John W. Sanborn who hauled in from China where he had been on an assignment with the International Telephone and Telegraph Company. He had left China before the shooting began, but not because of it. He and his wife evidently had enjoyed Canton life despite the hot weather they had encountered. Sanborn, as we recorded in this place last spring, is probably our most traveled class member with the possible exception of Bill Millar and another geologist or two. — Another caller was John Oakley of Akron, Ohio, and the Goodyear Tire and Rubber Company. His visit was the more pleasant because he brought with him his wife and daughter. Mrs. Oakley had an interesting story to tell of the activities of the wives of the Technology men who work for the Goodyear Company. This group of women have formed an organization that meets regularly and that renders an important service to the wives of new men coming to Akron from Technology. The Secretary knows of no comparable organization of Technology wives, and he is glad to record this one in the hope that it will stimulate other activities like it. — Visitor number three was Frank P. Romanoff who was back at the Institute for the first time since his graduation. He has had a wide experience in metallurgical research, particularly with the Apollo Metal Works in Illinois, has been married five years, and has two young children. — Caller number four, who missed your Secretary, left a characteristic note demanding to know why the Secretary did not stay in town to do his work. You will have guessed that this was Tom Green of Hartford. — Another caller missed by the Secretary was John Walker who now is living in Braintree, Mass.

The Secretary reports with pleasure that Dave Sutter has finally rectified an error which placed him in the Class of 1925 and is now properly and permanently affiliated with the Class of 1926. We welcome him officially into the mystic circle.

Now let us take up a few items in our Department of Achievement, Location, and Nomenclature. Dr. Magnus I. Gregeresen has been appointed head of the department of physiology at Columbia University School of Medicine. He was formerly a professor at the University of Maryland. — A. Howard Lane writes from his new address at Hatboro, Pa. He is still with the Telephone Company in the long lines department and is working in the Philadelphia division office. — John E. Nicholas has recently been in the public prints because of experiments conducted by him and his associates at Penn State on the affect on growing plants of controlling the temperature of their soil. — Maurice Davidson has legally changed his name to William M. Davidson. The advent of the Social Security Act disclosed to him an error in his cognomen. — Richard H. Pough is with the National Association of Audubon Societies in New York. Here is still an-

other novel activity for '26 men. — George Hannauer, Jr., of Chicago has been appointed one of the Institute's honorary secretaries. — Whitney Ashbridge, after running C.C.C. camps in Virginia, is back now in Philadelphia. — J. RHYNE KILLIAN, JR., *General Secretary*, Room 11-203, M.I.T., Cambridge, Mass.

1927

The tenth reunion of the Class was held at Castle Inn, Saybrook, Conn., on June 4, 5, and 6. It was an interesting gathering, which was well attended. Those present included the following: Charlie Sweet, Lee McCanne, Bruce Sherrill, Dan Metzger, Don Wylie, Frank Staples, Ray Leonard, Ed Leach, Ralph Stober, Morg Collins, Ed Mott, Alden Reed, Jimmy Dunn, Paul Parker, Vic Severs, Russ McCassey, Frank Massa, Jake Innerasky, Rosy Rosenthal, George Bergman, Jack Eldert, Milt Berg, Joe Hammond, Maurice Davier, Bill Taggart, Al Smith, Jimmy Chirurg, Jim Pilkington, Johan Carlson, Frank Wise, Jerry Yudkin, Dave Truax, Charlie Bartlett, Bob Bonnar, Ike Swope, Joe Burley, Glenn Jackson, George Houston, George Taminosian, Jim Lyles, Charlie Smith, Bob Wise, Jake Rabinovitz, Frank Marcucella, Ed Chase, Ham Moineau, Jim Henry, Paul Vaughan, Lee Woolfenden, Bob Tucker, Lew Baker, Tom Russell, Roland V. Crowley, Luke Bannon, Ike Stephenson, Larry Grew, Frank Meyer, Johnny Drisko, Bill Payne, J. E. Tweeddale, Ed Sanel, Dick Hawkins, Carl Wies, Alf Berle, and Dwight Arnold.

It is not entirely satisfactory to write a description of a holiday spent with old associates. The fun and frolic, the games and pranks are easily enough described, but the more significant scraps of conversation, the autobiographical experiences and ambitions, and the achievements of those who, similarly equipped, are attempting to find and are finding happiness and distinction in the world are impossible to reproduce adequately. Isolated from the moment and the personality, they become cold and artificial. Similarly, the changes in character and personality must be seen to be enjoyed and even wondered at. One comes to a reunion with preconceived ideas — drawn from recollection — of the characteristics of individual classmates, and one finds — with no little astonishment — that the changes in character are even more pronounced than, for instance, the rapidity with which baldness is overtaking Joe Burley and Ham Moineau.

One was free the entire week-end to follow inclinations in seeking amusement. There was no compulsion to be in any game or be in any place at a given time, and, as a result, the fun was spontaneous and enthusiastic. Almost continuously during the week-end, groups were swimming, playing tennis, baseball, or golf and there was always the opportunity to join the gathering and audibly criticize the players. And then, of course, one could always hoist one's feet to the porch rail, look at the sea, and swap yarns and experiences — it was a popular outdoor

sport. The evenings were full of mild revelry; the yarns were better, the adventures and experiences took on character, fire, and gave no small amount of personal credit to the raconteur. It was all good fun!

It was well known, of course, that the Class contained many men of distinction who should be rewarded. It was a little unexpected, however, that the prize committee should find that there was not a single individual at the reunion who did not deserve recognition, so all were rewarded with prizes. — RAYMOND F. HIBBERT, *General Secretary*, Care of Johns-Manville Corporation, Waukegan, Ill. DWIGHT C. ARNOLD, *Assistant Secretary*, Arnold-Copeland Company, Inc., 222 Summer Street, Boston, Mass.

1928

By this time, all of us have had the exciting pleasure of glimpsing a part of Technology's future. We refer to that part which we '28 Alumni, in common with all Technology Alumni, are soon to bring into being — the marvelous new gymnasium with its associated cage, field house, and modernization plan for Walker Memorial. Surely all of us realize how sorely Technology needs an adequate athletic plant to balance the high plane of educational progress of the Institute. We know from experience that this new proposal will help Technology and its students. We are hoping to distinguish our Class by our coöperation in this drive being made by the entire alumni organization. It's a big job, fellows, but everyone in the Class we've met has been enthusiastic about the project. The details of this drive are being covered in full in letters from Dr. Compton and the Alumni Association, so in this column we merely want to add: Everyone must push and that means the spreading of enthusiasm in addition to your very generous gifts. We say "very generous" advisedly because we Alumni can't raise \$1,650,000 unless we all give very generously.

Did you know that Bob Schildknecht '30 was married to Miss Lara Alice Edwards at Amite, La., on September 2? Yes, sir, the bachelors are thinning out when Bob leaves the ranks, and we send our warmest best wishes and congratulations to Lara and Bob. You'll find them at 34 East McMillan Street if you get to Cincinnati, Ohio. — Dr. Stork left a brief announcement this last month for young Master Robert Henry Daytz, who was born on August 19 to Mr. and Mrs. A. B. Daytz — Congratulations!

This past summer John Russell has been studying for his doctor's degree at the Institute. He is assistant professor at Columbia University Engineering School, teaching communications. We are pleased to announce that John is father of a daughter, Carolyn, born last December. — Last summer Edward Roessler and Miss Susan Olmsted were married in Yonkers, N.Y. They now reside in Caldwell, N.J. — Another so-called lifetime bachelor has been transformed into a benedict! This transformation occurred to William J. Kirk, known at the time of our

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

1928 Continued

fifth reunion as Bo-Peep Bill Kirk, who was married on August 19 to Alice Guertin, sister of another '28 man, Joe Guertin. Bill and Alice are making their home at 22 George Street, Newton. Our best wishes to you both from the entire Class. — GEORGE I. CHATFIELD, *General Secretary*, 5 Alben Street, Winchester, Mass.

1929

Another summer has passed since we left the Institute and we hope that before this volume of *The Review* is completed next summer, it will be possible to publish personal news of many of the Class from whom we have not heard since June, 1929. Let's not let another issue of *The Review* go to press without that long sought for word from practically all of you. We wonder how many of you got back for Alumni Day, June 7. Charles Locke '96, Alumni Secretary, forwarded me a list of 24 classmates who had indicated they hoped to be present on that occasion. Were you there and whom did you see? Even if you weren't there, whom have you seen?

Your Secretary was not among those fortunate enough to be able to get back on Alumni Day, but I have seen a few of the boys in my travels this summer. George Logan, I, had written me a while back that I should look him up when next in Philadelphia. This suggestion was followed early in June, when I happened to be in that city overnight. My wife was along and we found George, happily married, living in an apartment in Jenkintown and still working for Exide Battery Company. His work there is process development and, while he is in a supervisory capacity, his department is very small. Consequently, the possibilities are not too good.

I was in New York such a short time that I had time only to call Paul Keyser, X, but he was out. However, on my way out of New York, I picked a route through Larchmont and figured I would give Brig Allen a call. We found Brig at home and, since our route took us right by the apartment in which Brig resides, we took a short time out to call on him. Things seem to be going well with Brig since he took over his father's real estate and insurance business in New Rochelle, N.Y. He is happily married and probably fell into the harness just as easily as the rest of us who were not such confirmed bachelors. Brig is looking fine and doesn't seem to have changed much in appearance or weight since we were in closer touch with him. You would recognize him readily if you saw him, for he hasn't gotten the least bit gray or bald or stout since we saw him last in the summer of 1929. He would like to be remembered to all of you and along with your Secretary hopes to see you at our 10-year reunion a year from next June.

My travels this summer also took me into the South, where I spent a most enjoyable week-end with my old pal, Joel Whitney, II, and his family. Joel is now quite a family man with two fine children that I have told you about before, but

have called them both girls, later correcting myself. The youngest is John and is as healthy and husky a child as you have ever seen. Certainly is a fine boy and is now about two years old. The elder child is a girl and she is a peach. That Nashville, Tenn., climate must be good for them, for they are perfect specimens. Oh, well, all of you who are blessed with children probably have the finest, but how are we to know unless you write and tell us.

While in Tennessee I spent a day in Knoxville and from that point visited the Great Smoky Mountains, which can be seen from the vicinity of Knoxville in all their majesty. Most of us New Englanders think that the White Mountains are pretty fine and no doubt they are, but without taking anything from the beauty of the White Mountains, one cannot help feeling that the Smokies are stupendous. Miles away they can be seen rising right up into the clouds, enveloped in the smoky haze from which they take their name. A newly built highway makes it possible to drive to the top of Clingman's Dome, 6,640 feet, the highest point and above the clouds, without exceeding eight per cent grade. The day I went up was quite cloudy and the adjacent peaks could be seen only through breaks in the clouds. The panorama, when viewed through the breaks, disclosed miles of mountains to the north, south, and east. It was well worth all the time I took driving out of my way to see the Smokies of which I had heard so much. Since the tree line that far south is in the vicinity of 9,000 feet, all the peaks are covered with trees. I have seen quite a lot of mountain laurel in the Pennsylvania mountains in my travels, but the Smokies are just a mass of laurel. Someday I hope to go back and explore the mountains in a more leisurely manner, taking my wife. Those mountains are worthy of all the praise that the residents of Tennessee heap upon them.

Through the newspapers we learn of the marriage of Sears Hallett, XV, to Miss Dorothy Manning of Chestnut Hill, Mass., on June 25 in Brookline, where they will live. Sears is purchasing agent for a paper company in Newton Upper Falls, Mass. The press clipping services also inform us of the wedding on June 5 of Allen Congdon, IV, and Miss Alice Cary Tobie of Portland, Maine, in that city. They will live in New York after their wedding trip. Allen has completed a course at the Harvard Graduate School of Architecture since attending M.I.T. — To these newlyweds, we extend our best wishes for happiness, health, and prosperity.

Your Secretary has recently changed jobs within the same development department at Goodyear. No longer will I be spending four days a week out of town. There will be practically no traveling on this job, which will be a welcome change after better than two years of it. The new work is strictly design, in charge of a section, with lots of detail to keep me busy. In case you land in Akron now, look me up, for I'll be at home practically

all the time and will not have an opportunity to look any of you up. — Hank Gibbons, II, is back with the Goodyear Zeppelin Corporation after some months with the mechanical goods development department of Goodyear while the Zeppelin Corporation had a breathing spell. — Hal Dick, II, is still in Germany as observer of the German Zeppelin industry for the Goodyear Zeppelin Corporation. — Johnny Hartz, X, is still with Goodyear but is now in the compounding division of the development department, instead of chemical engineering. — Gene Gilman, X, is still in chemical engineering. — What are you doing? — EARL W. GLEN, *General Secretary*, Box 178, Fairlawn, Ohio.

1930

The Alumni Day Dinner on June 7 found half a dozen of the faithful gathered around the festive board: Scotty Scott and Myron Smith, VI-A; Howie Gardner and Al Vint, X; Reg Bisson, XVII; and your Secretary. Reg reports that he was married in September, 1936, and is engaged in the contracting business in Laconia, N.H. Howie became the proud father of a baby daughter, Ellen, in July. He has been kept pretty busy throughout the past year as director of the Chemical Engineering Practice School in Bangor. — Tom Connor, VII, was married in April to Miss Cecelia H. Samuel of Windsor, Conn., and in the same month Mendall Thomas, I, took as his bride Miss Dorothea H. Boyd of Roslindale, Mass. — In July, Richard Staderman, IX-A, was married in Washington, D.C., to Miss Serena A. Dondero of Melrose, Mass. The engagement of Miss Marion Beaupre of Millburn, N.J., to Frank McKenna, XVII, was recently announced. The heartiest congratulations of the Class are extended to these gentlemen!

Jack Bennett, II, Class President, writes as follows: "We are sailing on August 18 from Los Angeles on the S.S. *Mariposa* for Sydney, Australia, near which city Goodyear's Australian factory is located. I am being assigned to that operation as assistant secretary-treasurer and will be down there for an extended period of time. . . . If I do happen to be in this country on leave in 1940 you can count on my making every effort to attend our ten-year reunion. If you ever hear of anyone, Class of 1930 or otherwise, coming to Australia, be sure to let me know. . . ." Jack's address is Box 16, Granville, New South Wales, Australia, and I'm sure he'll be waiting to hear from the gang. — Hijo Marean, V, did his share in providing news and says in part: "I am for the present still located in Wilmington and am working for the R. and H. Chemical Department of the Du Pont Company. My work is a mixture of sales promotion and technical service in connection with the use of some of the products of this department. As a result I do considerable traveling through the Middle West." Hijo also tells me that Phil Holt, X, is with Standard Oil of New Jersey in Elizabeth, and Ted Riehl, X, is still in Akron with Goodyear.

1930 Continued

Jim Bryant, XIII, is our final contributor and writes: "Perhaps you remember that I married Mildred Lister '32, IV. We have a daughter, three years old, who certainly helps a lot to make life very entertaining. After leaving Tech I went into the textile business. First I went through all of the departments in the mill and then I was promoted to head designer and superintendent, which position I have held for about three years now. Some jump from Course XIII-2." Jim is living in Philly at 5930 Roosevelt Boulevard.

Your Secretary saw Spike Bragdon, XV, and Max Wheildon, II, at the national doubles tennis matches at Longwood in August. Spike and I were seated next to each other. After a bit of everything, he has finally become established in the tool business in Natick, Mass., and likes the work very much. — More letters of the type received during the summer will be welcome contributions to this column and will do much toward providing interesting news in each issue of the current volume of *The Review*. — PARKER H. STARRATT, *General Secretary*, 75 Fenno Street, Wollaston, Mass.

1931

The bulk of the news for this month is carried over from last June, having arrived too late to make the July issue of *The Review*. Gil Ayres contributed a letter which packs a whale of a lot of information into a small space: "I have noticed the class information in *The Review* lately and it is good to see some dope on ye Class of 1931. It has been some time since there has been any news of the Class, so I am going to add a bit from Course VII. I have been fortunate enough to have been able to maintain contact with most of the fellows and if the information given here is incorrect, I wish that you would ask Course VII, '31 fellows to write and let us have the latest thing about themselves. Israel Bearon when last heard from was contemplating going to medical school, but I have been unable to get further information about him. At that time he was working for the Boston Post Office. — Wendell Currier is now chief chemist for the Campbell Soup Company. He is married, has a daughter, and will probably own the Soup Company soon if his progress continues as rapid as it has been. — Standish Deake is assistant biologist for the Commonwealth of Massachusetts and spends his time seeing that we have fish, game, clean streams, and lots of very valuable and important necessities along that line. He is married and lives out in Stow.

"Harold Duncan is working for the Plymouth Cordage Company and is showing them how to make their rope immune from the attacks of marine bacteria and other rope destroyers. He is still single, although rumor has it that it is doubtful if he can hold out for much longer. — Percival Elbaum is married and when last heard from was working for the United Fruit Company. — Joseph Ferrucci has received his M.D. from Johns Hopkins, is married, and is practicing

medicine in Millis, Mass. He is specializing in x-ray work. — Helge Holst has graduated from Harvard Law School and is now a patent attorney for Lever Brothers. He is married and is living in Belmont. — Mayer Hyman has received the M.D. degree from the University of Chicago and is interning at the Michael Reese Hospital in Chicago. An exceedingly brilliant medical career is expected from him.

"Samuel Jacobson received his Ph.D. from the Institute and is now a research associate here, working on germicidal soaps. He has been very successful on this difficult problem, having gotten a couple of patents on his processes. — John T. R. Nickerson hopes to get his Ph.D. from the Institute next fall. He is married and is living in Waltham. Previous to last month he was working for the Edison Electric Illuminating Company of Boston, but he is now with the Birds Eye Company, doing research on frosted foods. — Robert Phelan is still single and is working for the Beech Nut Company of New York. Previous to this he was with the Atlantic Gelatin Company and did research for the Institute for a short time. — Bryce Prindle has been a senior textile fellow at the Institute, having received his Ph.D. here in 1935. He is married and has a little girl. Next year he is to be instructor of bacteriology at Iowa State. — Wallace Tibbets is now with the Du Pont Company working on new and bigger uses for cellophane. After graduation he spent a few years working on various problems at the Institute. He is married.

"Harmon (Jerry) Truax received his M.D. from Harvard Medical School in 1935 and has a surgical internship in New York. — At present I am a research associate at the Institute, doing work on peroxides and sundry biochemical problems. After receiving a Ph.D. in 1934, I spent two years at Harvard Medical School as a research fellow in physiology. I have been married two years. — I hope that this finds all well with you, Ben, and will use this opportunity to send my regards to all the members of the Class." Thanks a lot, Gil. We owe you a real vote of appreciation. Any Course VII men who want to pass along more news may do so through Gil, and he'll be glad to send it along, I'm sure. [Mr. Ayres is now with American Cyanamid Company in Stamford, Conn. Editor.]

Leslie Reed contributed the following: "I thought you might like to know that a daughter, Marjorie Irene, was born on February 17 to Mr. and Mrs. Enio Persson. . . . The writer is still following the fortunes of the building business with the paternal organization. We are starting a hospital addition at Brattleboro, Vt., and there are other projects in prospect." — Congratulations, Enio, and many thanks for the information, Leslie. The last I saw of Enio, he was busy building the Boston Post Office, but that was in the dim distant past. By the way, for those of you who like to keep track of people, Leslie's address is Post Office Box 165, Montague City, Mass.

Rita Violet Neal, daughter of Mr. and Mrs. Albert E. Neal of Beacon Street and Westmoreland, N.H., became the bride of Arnold Compton Childs on April 10. Among the ushers was Dick Blasdale, another recent graduate from the bachelor class. Mr. and Mrs. Childs are now residing on Upland Road in Quincy. — The wedding of Constance Elizabeth Nash and Henry Geddes Hartwell took place in June. — The engagement of Louise May Alcott of Watertown to Henry Dale Addison was announced last spring.

Alumni Day was a big success, of course, and the Class, while rather slimly represented, nevertheless made itself heard and had a grand time. There were seven of the faithful at the banquet: Broder, Higgins, Roddy, Whitaker, Ahlberg, Pierce, and Steverman. Charlie Broder came up from New York, where he is working with Cross and Brown Company as mechanical engineer in charge of the real estate property of that organization. Charlie looks as though married life agrees with him 100%. He let us in on a little news: They will soon be calling him daddy. — Johnny Higgins is associated with the Institute's Placement Bureau. — Gil Roddy, the ever present and enthusiastic Gil, is still with the Boston Manufacturers Mutual Fire Insurance Company. Gil has become quite a tennis fan; I ran into him a couple of times at the Longwood matches this season. — Whit is teaching at Penn State, I think, although my memory is just a little hazy on that point. — Hank Ahlberg brought his wife along to the festivities to add a little dignity to the party, and we might add that the brides of the Class had a charming and delightful representative. — Al Pierce came from New Bedford and served as the skipper for the Class in the sailboat races. Here again we were ably represented — as a fourth, a third, and a first in three races will show.

During the summer I left the electrical contracting business to take a job with the General Electric Company in West Lynn. My address remains the same, however, and I hope that some of you will make use of it in the next few months. — BENJAMIN W. STEVERMAN, *General Secretary*, 11 Glenland Road, Chestnut Hill, Mass.

1933

This issue marks the beginning of our fifth year as Alumni of the Institute, and next June we will celebrate our five-year reunion. Time seems to gain momentum from year to year, and the time passes even more quickly now than it did the first year or two we were out. Our classmates are spread to the four corners of the earth but do have one thing in common, as far as this writer can see, and that is that they are all making good. Practically everyone I have spoken to is genuinely interested and enthusiastic about his work, and has definite plans for the future.

The society columns, during the summer, again publicized the success of our colleagues in the announcing of their

Alumni Are Raising \$1,650,000 for a Technology Gymnasium and Other Recreational Facilities. If You Have Not Subscribed, Increase Your Class Total Now.

1933 Continued

intentions of setting up their own homesteads. We have notices of the following weddings: Phelps Kilborn Tracy and Miss Eleanor Carr Phillips, who plan to live in Foxboro, Mass.; that of Donald Brookfield and Miss Phyllis Goulding Brown; that of Herbert Spencer Gardner, Jr., and Miss Agnes Forschew Schlegel, who plan to live in Hartsdale, N.Y. (Gardner is in business with his father in the Gardner Advertising Company); that of S. Quimby Duntley and Miss Mabel Austin (Duntley is a member of the instructing staff at the Institute, where he is studying for his doctor's degree); and that of Carroll Thompson Newton to Miss Frances Louise Hurlin.

The following engagements were also announced: that of Cortlandt Ryder Campbell to Miss Sylvia Collamore Hatch; that of Alexander C. Thomson to Miss Madeline M. Cambreleng; that of Edward Cowan Marshall to Miss Elizabeth Leiper Breed; that of David Mitchell Nason to Miss Gertrude Dunham Cooke; that of Roger Larry Putney to Miss Marjorie Poole Blanchard (Putney is now instructing in the Department of Mechanical Engineering at the Institute); that of Alanson G. Bowen to Miss Agnes Parsons (Bowen is connected with the American Optical Company in Southbridge); that of Edward E. Simpson to Miss Barbara Brintnall; and that of Robert Clark Rogers to Miss Doris Lyston Jones. Rogers is with the Ingersoll-Rand Company in New York. Our heartiest congratulations to all of you. — We have heard also of the arrival of a daughter at the homestead of Matilda and Allan Vaughan.

An item from the Boston *Globe*, during August, tells of the appointment of Alvah Raymond to the position of science teacher at the Weymouth, Mass., High School. — As many of us know, Wilber Huston has spent quite a bit of time in Europe this year with the Oxford Group, and I hope he will excuse the writer for again copying some of the newspaper items in this column, but I do feel that Bill's work is very much worthy of mention and is of interest to the rest of the Class. The following is part of an article published in the New York *Herald-Tribune* on August 18, upon Bill's return from England. "Mr. Huston . . . feels that the needs of the world today are not technological, but spiritual. During his five months abroad he attended Oxford Group gatherings in England and the Netherlands. From what he saw and heard at those meetings he is persuaded that his duty as an intelligent and well-equipped young American is to work to bring about the birth of a new patriotism in this country. By patriotism, Mr. Huston explained, he did not mean the old kind of flag-waving, red-baiting, ancestor-worshiping, sword-rattling nationalism; but rather a patriotism envisaging an American founded on spiritual lines, where every individual would feel it his responsibility to give himself to the nation, rather than to use the nation simply as the focus of his own career.

" 'I'm an engineer,' he said, 'but I'd like to think of myself as a human engineer. We have plenty of engineers who can build bridges and machinery; but we need engineers today who can build nations; more particularly who can build the type of people who can get together to work out some of the plans we have for the future. — 'I saw myself then,' he related, 'as a fellow with a good background, a fine engineering education, an interesting job — but I realized something was lacking. I was not making the kind of contribution to life that was demanded of me. I saw that something had to happen to me. And I realized that I was simply being guided by my own selfish desires. I had to take God's plan into account.' And so, after discussing his problems with friends in the Oxford Group, he determined to surrender his life to God. His father, the Right Reverend S. Arthur Huston, of Seattle, Bishop of the Protestant Episcopal Diocese of Olympia, wrote to him, expressing his satisfaction that he and his son would henceforth be working together."

It was with regret that we received the following letter from Bob Ballinger in Kansas City: "In case it has not come to your attention I wish to inform you of the death of Edwin Higgins on July 13 of this year. Ed was graduated from the M.I.T. in 1933 in aeronautical engineering and met his death in naval gunnery practice on the U.S.S. *Mississippi* off the coast of Santa Barbara, Calif. Ed was piloting a plane in which there was another occupant and crashed from a height of 1,500 feet, making a power dive into the ocean, both occupants of the plane being killed immediately. The body was returned to Kansas City for burial. Since leaving the M.I.T. Ed worked for the Stearman Aircraft Corporation of Wichita, Kansas, and the Chance-Vought Company at Hartford, Conn. He had married about five months ago and is survived by his widow and three sisters, one at Spokane, Wash., and two of Nanking, China.

"Since the Navy does not allow much publicity given to matters of this sort, I thought it might be possible that this information would not be received at Boston, and believe that the Alumni Office would be interested. It is with a great deal of regret that I write this letter since I have known Ed very intimately for some ten years and he was one very fine fellow."

I am sure we all extend to the Higgins family our deepest regret on the passing of such a fine boy.

That is the extent of the news for this issue, and as usual, yours truly will appreciate a line from you fellows out there who are on the receiving end of this magazine as to what is happening, so that we may spread the news through these columns. Let's hear from you. — GEORGE O. HENNING, JR., *General Secretary*, Belmont Smelting and Refining Works, Inc., 330 Belmont Avenue, Brooklyn, N.Y. ROBERT M. KIMBALL, *Assistant Secretary*, Room 3-107, M.I.T., Cambridge, Mass.

1934

Our first issue of the fall brings news of many changes in our individual lives. There are many marriages, engagements, and births to announce, and to you men concerned, go the heartiest of congratulations from your Class. Your Secretary again wants to call to your attention the fact that no notes are published during August, September, and October. As a result, many of the engagements announced in this column may be marriages by the time you read the notice, and many of the marriages may have produced — Whoa! The notes aren't that far behind!

In an attempt to comply with instructions from the Editor, it will be necessary this month to list the announcements without the usual elaboration, due to the vast amount of news which has accumulated during the summer recess. Taking them in the order of their progression, we find, among the engagements, that Mr. and Mrs. Leonard J. Cooke of Arlington recently announced the engagement of their daughter, Miss Gertrude Dunham Cooke, to David Mitchell Nason, XV. Dave was graduated in 1931 from Massachusetts State College but later did graduate work at the M.I.T. Miss Elizabeth Fearnhead Duval, daughter of Mrs. Allan Douglas Yorke, of Augusta, Maine, will be married some time this fall to Edmund Quincy Sylvester, 2d, II.

This time Dan Cupid has shot down one of our aeronautical engineers. Miss Astrid Elisabeth Johnson, daughter of Dr. and Mrs. Sanfrid K. Johnson, will soon become the bride of Raymond P. Holland, Jr., XVI. Ray is at present affiliated with the Curtiss Aeroplane Division of the Curtiss-Wright Corporation in Buffalo. On May 29 at a tea given by Mr. and Mrs. Thomas H. Powers, the engagement of Miss Nathalie Tucker Powers to Richard Franklin Miller, III, was announced. Dr. Miller was graduated from Williams College in 1930 and in 1934 received the degree of Sc.D. from M.I.T. Formerly an instructor at Yale, he is now with the research laboratory of the United States Steel Corporation in Kearny, N.J.

The betrothal of Miss Virginia Larkum, daughter of Mr. and Mrs. Newton W. Larkum of West Hartford, Conn., to A. Paul Bencks, Jr., XV, recently appeared in the New York *Times*. — We are glad to know that Miss Ruth Green, III, is not taking her technical education too seriously and will wed Ben Chessman, Boston contractor. A surprise luncheon and bridge was recently given in honor of the bride-to-be at the Hotel Lafayette. — Frederick Baker Parks, VI, recently took his marriage vows with Miss Eva Lillian Brannen. Fred is employed as an engineer in Boston and is now living in West Medford. — On June 6 Miss Frances Lawrence became the bride of Arthur Llewellyn Peck, Jr., VII. The young couple are now residing at 1 Craigie Street, Cambridge. — Of interest to Course X men is the marriage of Theodore David Hetzel, X, to Ruth Mary McMahon,

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daughter of Mr. and Mrs. James A. McMahon, which took place July 3 in Buffalo.

An event which had the nature of an all-Technology affair occurred on Thursday, July 8, at Wauwinet, Nantucket, Mass., when Katherine Carr Jones, daughter of Mr. and Mrs. William Francis Jones '09 was married to John Gurney Callan, Jr., '34, XV, the son of John Gurney Callan '96. — The wedding of Herbert James Lidoff, X, and Evelyn Blanche Hillerson took place on May 21 in Washington, D.C. — Miss Dorothy Gilder Martin and John Bartol Dunning, XV, were married on June 19 at the Presbyterian Church in Rye, N.Y. Mr. and Mrs. Dunning will make their home in Mamaroneck, N.Y. — Russell Hastings, Jr., and Miss Mary Holt took the fatal step on August 17 at the Episcopal Church of Buffalo. After a trip through Glacier Park, the newlyweds will be at home in Belmont, Mass.

Miss Dorothy Ada Ruestow recently became the bride of Gordon Kendrick Burns, VI-A. After a southern motor trip, the couple took up residence in Westfield, N.J. — Carlton J. Cook has been married for over a year to Jeannette Wescott. They have just built a new home, old English style, in Binghamton, N.Y.

Miss Helen Pleasonton and Philip A. Daniel planned to be married in October. Philip is at present engaged in business in Springfield, Ohio, being connected with the Ohio Edison Company there. — Word has just been received of the marriage of Richard H. Sanders, II, to Miss Jean E. McClellan of Washington, D.C., which took place February 20. Dick accepted a job on March 1 as apprentice engineer with Pan American Airways and is now working at the Pacific division base in Alameda. His mailing address is 2510 Central Avenue, Alameda, Calif. — Miss Sylvia Ruth Belin, daughter of Dr. Harry Belin of Brighton, was recently married to Robert Maxwell Becker at the Beacon House in Brookline. The couple are now residing in Brighton.

The arrival of Jane Carol Locke, daughter of Mr. and Mrs. Edward B. Locke, Jr., III, occurred on Thursday, May 13. Father, mother, and daughter were doing unusually well at last accounts and father was making about three visits daily to the hospital in Nashua, N.H. His modest personal opinion is that Jane is about the best baby he has seen in a long while. — It was a coincidence that in the same Memorial Hospital in Nashua was the wife of Bradford Hooper, and into the Hooper family came a fine baby boy just a few days after the Locke infant arrived. The name given was Bradford Hooper, Jr. — On August 1, Mr. and Mrs. George Willard Patch, Jr., became parents of a daughter, Judith Gail Patch. — Unless Judith and Jane are mechanically inclined, it doesn't look as though we have many prospective students for the class of '56.

Jerry Minter, VI-A, writes from Boonton, N.J., that he is very busy with the Ferris Instrument Corporation on the

development of test equipment for radio receivers. He reported an exciting incident which occurred very close to the plant. A privately-owned cabin plane crashed about a hundred yards from his laboratory in Boonton. Jerry and a few other employees who happened to be nearby rushed over in time to extricate a man, woman, and a small dog from the wreckage. Although they were severely shaken up and bruised, Jerry believed that their injuries were not going to prove fatal. In closing, Jerry wanted to be remembered to all his classmates. As yet he is a bachelor but sounded rather doubtful about the future.

To Allan Q. Mowatt of Swampscott, Mass., goes, I think, the honor of having the most exciting incident of the summer. The New York *Daily News* recently reported that 15 refugees of a native uprising on Great Inagua Island in the Bahamas had survived a five-day, 400-mile voyage in a disabled open boat without food or drinking water. To add insult to injury, upon reaching Cuban soil, they were arrested as suspected revolutionaries due to the presence of arms and ammunition in the boat. Mowatt, who is an electrical engineer and manager of the West Indies store, was one of the five Americans to escape the native uprising.

In Boston I met John King, XV, who has devoted a great deal of his time since graduation to the publication of a book on the care and treatment of the hair. John has become quite an expert in this line, having been asked by a group of British publishers to enlarge his present book for publication in the British Isles. Every time I look in the mirror, I feel that my rising forehead will make your Secretary a potential buyer for John's book.

Of interest to you fellows who, after reading these lines, sit down and drop me a line so that your names will have appeared at least once in *The Review* before you die, is the fact that your Secretary's address is now Pinebrook Lodge, Stoneleigh Place, New Rochelle, N.Y. This change has been brought about through my acceptance of a position with the Ethyl Gasoline Corporation at 455 Lexington Avenue, N.Y.C. My new position will place the responsibility for the promotion of Ethyl gasoline sales in my hands for the Manhattan, Bronx, and Westchester County areas. The demand for Ethyl fluid has sky-rocketed in recent years since it is absolutely necessary to use Ethyl gasoline to obtain the maximum efficiency from the modern high-compression automobile engine.

If this column is to grow and be of interest to all of us, you fellows will have to feed the fire, so to speak, and forward a few facts about yourself and about those men with whom you may come in contact. We censor very little here. Until next month, then, cheerio. — WILLIAM G. BALL, JR., *General Secretary*, Pinebrook Lodge, Stoneleigh Place, New Rochelle, N.Y. ROBERT C. BECKER, *Assistant Secretary*, South American Development Company, Apartado 655, Guayaquil, Ecuador, South America.

1935

With the passing of summer we return to a new series of notes about the doings and nondoings of the Class. Though it has receded into the dim, dark past, an account of Alumni Day last June should be of interest to those of you who were not fortunate enough to attend. The day was blessed by sunshine, but without excessive heat; in fact, it was a perfect day for the out-of-door events. I'll dispense with an account of the program and stick to class news, as the former has appeared already in *The Review*.

The first fellow I ran across was Vin Cook. He and his wife were in the main lobby obtaining their tickets for the various events. We shortly parted to attend the lectures on housing, but met again later in the 5:15 club room. Vin has had a varying experience since graduation. Although some of it has appeared in these columns before, I'll give a summary, as wheedled from him. For the past year Vin has been working for Aberthaw Construction Company, a Boston outfit. He has been general Jack-of-all trades on quite a few jobs, doing field engineering, drafting, and miscellaneous work as required. He has worked on the following jobs: an extract company in Connecticut, Corey Hill Hospital renovation in Brookline, the Corbin Screw Corporation Building in New Britain, Conn., the New England Baptist Hospital, the Lowell Old General Hospital, and a few lesser buildings. Vin seems to be enjoying his work and is, I guess, gaining good experience. [Editor's Note: Since last August, Mr. Cook has been assistant maintenance engineer at the Whitinsville Machine Works.]

Following the Housing Conference, several of the fellows showed up at the west lounge of Walker. Pro Prohaska and Milt McLeod were resting their weary bones there. Pro is working in Springfield, Mass., for the Perkins Machine and Gear Company. He is enjoying the best of life (or is he, inasmuch as he maintains that he has no matrimonial prospects as yet). I could not wheedle anything from Milt aside from the fact that he is still working in the aeronautical lab at the Institute.

About that time Phil Rhodes and Ben Berger wandered in. After leaving school, Phil married a Portland lass, Lillian Winn, and worked for the Winslow Brothers and Smith Tannery in Portland, Maine. After a year he left for a job as an assistant pharmacist, where he remained for two years. Next Phil went with Maine Steel Products in charge of instruction in the use and installation of Sargent snowplows. At present he is in partnership with his father, doing architectural work. — Ben Berger has been with the Housing Association of Metropolitan Boston, doing inspection work and making studies of housing conditions. Ben seemed to have that contented look of the secure government employee, and I guess the work fits in pretty well with his plans for the future. I forgot to mention above that there is a Phil Rhodes, Jr., another potential Tech man.

Which Class Will Have the Largest Percentage of Its Membership Contributing to the Alumni Fund?

Phil, Ben, and I then wandered over to Du Pont Court where we ran across a few more of the boys, including Dave Greenlie, George Peterson, Prescott Smith, and Jerry Farr. Dave has been teaching at Technology, contrary to my former report that he was doing graduate work. Prescott is still with the machine and tool division of Pratt and Whitney, where he develops wonders in the line of methods and time studies. George has been doing engineering and estimating on cooling equipment for General Heat and Appliance Company, who handle the Frigidaire products for New England. Jerry is working in the sales department of the Burroughs Corporation, manufacturers of screens. The Farr family has been increased to four now.

During the afternoon I ran across Dick Jarrell and Charley Smith. Dick has been with Spencer Lens Company since graduation. I believe that by the time this is published the name of the firm will be the Jarrell-Ash Company. Dick mentioned that Milt Weiss is employed by Keystone View Company on the manufacture of movie projectors. Smitty is still putting the students through their paces at the Buffalo Chemical Engineering Practice School.

At the Alumni banquet that evening a few more of the fellows showed up with a bit of news. Dudley Aldrich was there with bells on, as was Luke Packard. Luke is raising the sweat upon his brow for General Radio. He mentioned that Julian Bigelow continues to think up new ideas for Sperry Products, Inc.; Don Taylor is in New York City as a sales engineer for Bethlehem Steel Company; Don Wood, also in the Big City, continues to work for Eastern Steamship Company; Dick Whitmore has shifted from Westinghouse Lamp Company to Westinghouse X-ray; Louis Fong is still with Pilot Radio in New York; Frank Wilkins is selling for Alvin S. Mancib Company, the Weston Meter representative for the East; Gerry Rich continues to enjoy married life and is still with Hygrade Sylvania in Salem; Ken Young is reported to be with New England Telephone and Telegraph Company and is married; John Thorpe has been traveling all over the East for American Telephone and Telegraph; and finally, according to Luke, Rolly Hanson and Perry Ware are with Champion Radio. Luke did a good job on reporting about so many of the fellows. It would improve this column considerably if I had more such good sources of information. Biss Alderman was at the dinner also and reported an addition to the family, Jean, and the fact that they will spend the current year traveling in Europe on a fellowship.

Miscellaneous information which turned up during the day is that Bob Greer has been transferred by the United States Engineers to the Panama Canal, where he is an electrical inspector. Dick Hughes is with the Corbin Screw Corporation in New Britain, Conn. Walt Byrne is working for Liberty Mutual Life Insurance Company, and it is rumored that the family numbers three now. Ned Col-

lins has a position with Truscon Steel Company and is working on a construction job in Pittsburgh for them. George Reece is doing research for Shellfish Experimental Company. I wonder if he is experimenting with the pearl essence mentioned in the July Review. — Rumor has it that Ed Friedman is temporarily unemployed, but has good prospects. Dick Campbell has spent the last two years teaching at the University of Kansas. Tom Rinaldo is analyzing water for the state of Massachusetts. That ends the news gleaned during the course of Alumni Day. Here's hoping next year will see a large number of the Class present for the reunion.

Speaking of reunions reminds me that it's less than three years until our big fifth year reunion. If any of you fellows have some ideas regarding things to do and places to go which would be an appropriate part of the program, I'd appreciate hearing from you.

Our next series of news items comes from that everlasting source, marriage. A total of 19 members of the Class were married during the summer. Karl Achterkirchen and Doris Lehman were married June 26 in Queens Village, N.Y. They will live in Santiago, Calif., although I cannot tell you the concern employing Karl. Karl received his master's degree from M.I.T. a year ago. — George Ahrens and Constance Seelman were married June 28 in London. George received his master's with our Class. — Dick Babcock and Elizabeth Payson eloped by plane to Kineo, Maine, where they were married July 24. Dick is associated with the Wiggins Airport and is stationed at Moosehead Lake, Maine. — Ben Blocker and Anne Waldman trod the center aisle during the summer. So far as I know Ben is still working for the Boston Lithographing Company. — Gurdon Butler, Jr., and Elma Simm were joined in wedlock August 21 in Belmont, Mass. Gurdon received his doctorate with the Class. — Bob Carr and Doris Payne were married August 7 in Maplewood, N.J. At last report, Bob was working for the Arcturus Radio Tube Company in Newark. — Edith Colt and Horace Peters were married in New York, June 29. Edith studied architecture with our Class after graduating from Smith. — Buckley Crist and Carolyn Breadsley said, "I do." Buck is with the Calco Chemical Company in Bound Brook, N.J.

Johnny Demo and Rosanna Robinson walked the center aisle on June 5. Johnny has been working for the Tidewater Oil Company in Bayonne, N.J., since leaving the Bangor Practice School. — Joe De Simone and Bernice Gould were married last June. The boys of Course XVII will remember that Joe was with us the first two years. — Bob Flood and Catherine Byrnes have taken the vows. Bob is, I believe, working for Oxweld in Elizabeth, N.J. — Gordon Gott and Shirley Childs were married. Gordon is doing research on rubber for the Dewey and Almy Chemical Company of Cambridge. — I'm not certain, but I believe that Tom Graham and Evelyn Mattmiller, a school-

teacher in Great Falls, Mont., were married during the summer. Tom is working in the research department of the Anaconda Mining Company in Great Falls. — Ken Holdom and Katherine Knapp were joined in holy wedlock July 3 in New York City. Ken is working for the Procter and Gamble Distributing Company in Nutley, N.J. — Bob Landis married Rita Grunden on July 10 in Hershey, Pa. Bob is working for the Harrisburg Steel Company in the engineering department. Another marriage of the summer was that of Fred Lincoln to Dorothy Etter. The ceremony took place at Manomet Heights, Cape Cod, on July 21. Fred is doing sales engineering for the General Chemical Company. — Cecil Mann and Frances Stankard were married June 10. Cecil has been an instructor in the Course in Aeronautical Engineering since graduation. — The last I heard, Jim Parker and Mary Libby (sister to Jim Libby) were engaged, but I believe that the marriage took place during the summer. Right Jim? Jim has been commuting between New York City, where he works for National Broadcasting Company, and Boston. However, I expect that since their marriage that has ceased. — The last marriage for this issue is that of Leon Wallerstein, Jr., and Laura Werner. They were married June 28 in New York City. They are living in Erie, Pa., but I don't know for whom Leon is working.

Before leaving the Winchellizing I must apologize to Jim Wiedeman. In the last issue I announced that he had married Elizabeth Belisle, but unfortunately left off his last name. Those of you who were a bit hazy about who Oscar Fontaine might be will, no doubt, appreciate the joke on me for leaving off the last name of Wiedeman. Sorry Jim, and thanks for the letter. Jim also mentioned in his letter that he has been working for the American Cyanamid Company in their research laboratory. He says that the lab is a well-equipped, modern building of five stories. Jim's work has been in the division of "pure research" and has been mainly of a chemical nature rather than engineering. The work is quite varied, interesting, and of valuable experience. I thought I was through with the marriage column, but just ran across a note which I had overlooked. It states that Albert Sanderson has been married for nine months. I don't know the young lady's former name, so can't inform you. Better drop me a line soon, Sandy.

There's quite a bit of news this time about the doings of the Class in the way of work, probably because of the three months since the last issue. Herb Thomas left the Pneumatic Scale Corporation and joined the General Electric Company at their Schenectady plant. Herb is a student engineer there at the moment. An item from the VI-A news states that "Johnny Mooring is now working for the American Telephone and Telegraph Company. He is employed as junior statistician — a title which was conferred upon him by the company. 'Amateur psychologist,' however (his own idea), is a title which

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he believes to be much more applicable, inasmuch as he is making a study of the reactions of telephone subscribers. Almost all of his time is spent in analyzing the customers in an effort to determine whether or not they are satisfied with the service which the company gives them. If they are not satisfied, he tries to discover what else they are expecting."

I have a rather interesting letter from Ed Clark. It arrived in time for the last issue, but was omitted by an error on my part. Here is what Ed has to say: "Toward the last of February, I left Climax, where I was employed as an underground engineer, to accept a position as an assistant mining engineer with the Anaconda Copper Mining Company in Butte, Mont. On my way here (Butte), I stopped in Salt Lake City and saw Frank Milliken '34, Ford Boulware '36, and Jim Casale of our Class. Jim is still working at the Magna plant of the Utah Copper Company, and is raving about some beautiful blonde Mormon in Salt Lake City. [According to the Alumni files, he has since gone to Korea, Japan, where he is working for the Oriental Consolidated Mining Company.] When I got here I met Mal Porter and we planned a reunion, which was held in Helena. Stan Lane, Tom Graham, Carl Stratton '34, Mal, and I were present. Carl and Stan are both enjoying married life, and maintain that Western girls are far superior to Easterners. However, they were evidently not used to night life and retired early. Mal, Tom, and I, with dates, retired to a night club. . . . Mal tried his hand at roulette, at which he was rather unsuccessful. Meanwhile Tom and I upheld the good Tech tradition by singing (?) our repertoire of songs learned at the boat house. Mal also joined in after he had gone broke at the roulette table. Tom and I had the colossal cerebral torrent of accompanying Mal to Philipsburg where he had to plumb a shaft Sunday morning. Tom's fiancée placed her pretty little foot on Tom's throat and shouted, 'Tarzan, my mate,' and proceeded to drag him off in the general direction of home; so I helped Mal plumb the shaft by warming his bed all Sunday morning, while he ran up and down in a cage (elevator to you nonmining mugs). Sunday afternoon we all proceeded back to Helena, where everybody had made an admirable recovery from the previous evening's hilarity. Mal has just accepted a position as sampler at the Leonard mine of the Anaconda Copper Mining Company." Many thanks Ed for the letter. We'd like some more news from way out West.

A note from Pat Mahoney informs us that he is working as an assistant chemist for the rubber division of Jenkins Bros. in Bridgeport. Pat has had some experience in several of the departments and is doing research on the production of jar rings, friction tape, rubber-coated fabrics, and other mechanical rubber goods. Pat is well pleased with his job and is getting some fine experience. — Hank Ogorzaly left the Boston station of the Chemical Engineering Practice School and is now with Standard Oil of Louisiana.

On one of my trips to Tech I ran across Bill Abramowitz and Jake Castleman. Bill was taking a course during the summer at the expense of National Oil Products, the company for which he juggles the test tubes. Bill said that he was fooling the company by not learning anything about colloid chemistry, as they expected. However, knowing Bill, he no doubt was soaking up quite a bit of "larnin" about that complex subject. Jake Castleman was at the moment at liberty, having finished a year of active duty with the Army. Since then I have heard a rumor that he is employed, but I don't know the name of the company.

A couple of months ago outside the Harvard Business School a car stopped in front of me and in it was Gerry Golden. Gerry had just joined the Service Caster and Truck Company of New England. They have a plant in Somerville and Gerry is the sales engineer. They manufacture all sorts of material handling and moving equipment for industrial use. Gerry said that they had more orders than they could fill; so it looks as though he has been quite successful. Gerry also gave me a bit of news about some of the other fellows. Fiske King is with Graton and Knight in Worcester. They manufacture belting for power transmission, and so on. Leo Beckwith, is with the Market Forge Company, competitors of Gerry's firm. Larry Stone was with Market Forge, but has left for a production job with a concern in New Hampshire. Unfortunately I don't remember the name of the company, but it is Larry's job to get as much production out of the plant as possible. Jim Glenn left the Color Corporation and is working for Sidney Blumenthal and Company. A part of his job involves doing color analysis with Professor Hardy '18 at the Institute. Doug Chalmers is now at the Army Flying School at Randolph Field, Texas. Bob Ganoung is with Procter and Gamble in Ivorydale, Ohio. He is in the general engineering division.

During the summer Dick Lawrence sent me the following letter, written by Bart Chapman: "Although still working for the Remington Arms Company and liking it immensely, I have been away from the main plant at Bridgeport [Conn.] for the past three months. The first ten weeks I spent at the Arms Works in Ilion, N.Y., acquainting myself with gun making in general and with production control in particular. Followed this with a week at the Peters Cartridge Division plant in Kings Mills, Ohio. While there I spent the evenings in Cincinnati with Sam Crew '34. Sam is married and working for his father in the builders' supply business. Made a little trip on my own to Louisville to check up on Art King and his development into a Southern gentleman. Gentleman or no, the South has not yet erased the Down-East in good old Marcus. Art appears to be very well established in Louisville, professionally and socially. From Louisville, I went to Findlay, Ohio, near Toledo, for a day at the branch factory of the company manufacturing skeet- and trap-shooting equipment. On the way east I spent a

night in Cleveland where I saw Jack Ballard and Harry Essley '36, and, of all persons, Johnnie Duff. Jack and Harry are working for the Reliance Electric Company. Jack had been in sales engineering until recently when he was transferred to production control. (Where have I heard those words before?) Harry is in methods and standards. Johnnie just happened to be in Cleveland taking a salesman's instruction course at the Iron Fireman plant. Johnnie has gone to work for his father in New Bedford. He said something about a tugboat. Don't know whether he has been elected to stoke the battle wagon and is investigating labor-saving devices on that account or what. But anyway, Jack and Johnnie and I had a swell evening together swapping reminiscences and news of others in the Class here and there. I am back in Bridgeport now, but will spend a week at the General Electric plant on production planning and control. All this is leading up to what I consider a tidy little position at the Bridgeport works."

Here is some news that Tony Dauphiné passed along: "Jim Libby, my roommate, had a long letter from Rollin Morse who, since graduation, has been working for the Lago Oil and Transport Company in Aruba, N.W.I. [Last summer, he returned to his home in Somerville, Mass.] He has been transferred to the manufacturing division of the refinery, and prospects for continued advancement look good. He had just returned from a week-end trip to Lake Maracaibo district of Venezuela, which he described as follows: 'It was very interesting to see the hundreds of wells sticking up out of the water, in a strip along the lake front, seven miles wide and 50 miles long. And ashore are the hundreds of wells of the Gulf, Shell and Venezuelan Oil concessions companies. The companies maintain fine camps for their employees. However, the climate is rather extreme. Venezuela is far from the complete jungle that I had pictured it to be. Maracaibo is a city of 50,000, pretty modern, but exceedingly dirty. None of the natives speak English, so my friend and I had great fun exercising our lack of Spanish.'"

Tony goes on: "Dick Eshbaugh stopped by the dorms the other day on the way back from rock climbing in the Blue Hills, and states he is still with the leather company in Peabody, Mass. George Hunt was another who happened into Cambridge to go to a Chemical Warfare meeting. Reid Ewing is rumored to have gone off to the Rockies on his vacation from nursing a hydrogen plant for Linde Air Products Company in Buffalo. Crotcher Art Crowley, as far as I know, is still wrestling a living from mother nature's air, water, and coal at the Du Pont's plant in Belle, W. Va. Johnny Howell is also burrowing near him in the depths of West Virginia, since he has been working for the Union Carbide chemicals division near Charleston. From Dick Bailey I received a swell two-bit cigar with the following letter: 'May this 25-cent (?) cigar impress on your master mind that the line of Bailey has added

Have You Sent in Your Contribution to the Alumni Fund for Student Recreational Facilities?

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another twig to its tree. We call her Little Joe—Joanna. Not bad for a young fellow barely married a year and earning a pittance, eh? I have a swell place to live and a great girl for a wife. The work is fair with a fairly good prospect. We have a beautiful plant growing every day—over 90 buildings—5,000 people—and tons of acetate every day.” Thanks for the news, Tony.

As for myself, I finished the first of two years at Harvard Business School on August 18. From then until September 27, the beginning of the present and last year, I worked in the library to earn a bit of cash to help meet some of the expenses of this school, which seems bent on breaking the pocketbooks of all the students. Let's have more letters during the coming year, fellows; every one of you owes me one by this time.—ROBERT J. GRANBERG, *General Secretary*, McCullough B-13, Soldiers Field, Boston, Mass. RICHARD LAWRENCE, *Assistant Secretary*, 111 Waban Hill Road North, Chestnut Hill, Mass.

1936

From Course I, we find that Robert V. Wignot, who attended the Institute as a graduate student, married, on May 31, Miss Mary Ann Leach of Natick. Wignot is now employed in Buffalo by the Liberty Mutual Company.—August 14 saw Jim Craig, II, married to Miss Emma Miller, one of the home-town girls in White Plains, N.Y. Jim is working for the Linde Air Products Company in their Newark laboratory.

Next we find that S. Norton Miner, IV, has taken Miss Isabel Keller of Brookline for a bride. The wedding took place on June 18 in New York City, where the couple have set up housekeeping.—Another Course IV marriage was that of Howard Wheeler to Miss Betsy Shrigley of Boston and Marblehead on September 3. Upon leaving Technology following his second year, Wheeler studied at L'École des Beaux Arts in Fontainebleau and later at Harvard Architectural School, where he completed his course last February.—Lance E. Booth, Jr., a graduate student in Course V, is now engaged to a nurse from Elizabeth, N.J., Miss Janet B. Fleming.—Arthur E. Bearse, who received his Ph.D. in chemistry with our Class, was married on May 15 to Miss Madeleine A. Trow of Greenwood, R.I. They are living in Woodstown, N.J.—The engagement of Tom Johnson, IX, to a Junior Leaguer from Providence, R.I., Miss Virginia Tingley, was announced last May.—Harry A. Raddin, X-A, was married on August 15 to Miss Olive E. Johnson of Saugus, Mass. Harry is a chemical engineer with the Calco Chemical Company in New Jersey. Another graduate student of Course X, Wallace K. Woods, is engaged to marry Miss Sylvia V. Hinckley of Fall River.—And a third graduate student of Course X is engaged to a direct descendant of John and Priscilla Alden. He is George C. Putnam, and he will marry Miss Vesta Louise Alden of Westfield, N.J. Putnam is a field engineer for

the Texas Company in Lockport, Ill.—From Course XV, Anthony A. Belser, Jr., was married, June 17, to Miss Helen S. Price of Plainfield, N.J.—By the time this appears in print, W. W. Prichard, XV, will probably be married to Miss Ruth Pope of Beverly, Mass. I say probably because all I know is that when the engagement was announced last May, they were planning on a marriage in the fall. Prichard is working for the United Shoe Machinery Corporation.

Another Course XV wedding many of us had been looking forward to ever since the engagement was announced last New Year's. I refer to the marriage of the "soap king." But a letter from Al Horton tells the whole story: "As regards the Thornton demise—well, sundown of August 21 saw it all over with. The lucky bride, a 'friend' of rather long standing, one Margaret (Peggy) Kendal of Summit, N.J., was very lovely and demure in her long satin dress with trailing veil. Except for the groom, everyone looked happy and composed. An outstanding feature of the ceremony, of course, was the efficiency of the ushers. Represented was the Class of '36 by the following contingent: Koontz, Ayer, Thomas, Wallace, and last but probably farther behind than that, yours truly, feeling quite equal to the very best of the Phee Gee ilk. Friends Cargen and Austin, with respective spouses, were also on hand—each looking disgustingly like the cat digesting the juicy canary. The dwelling nooks of the latter two (10 Monroe Street, New York City), by the way, were carefully examined and duly appreciated. Mr. and Mrs. Thornton, now that Maine can no longer claim them, should be at home somewhere in the dusky city of St. Louis." Al continues his letter with some local Boston news: "... I ran into Henry Lippitt a few days ago, breakfasting before rushing on to punch the clock at Lever Brothers. Henry is proselyting (I hope Al spelled that word correctly because my dictionary is at home) under the wing of Bob Elder in the advertising research department, and having, so he says, a swell time. Beginning October 1, Hank and yours truly will be bunk mates—well, maybe not so close as all that—in our ground floor penthouse at 239 Commonwealth (Suite 12). From the above, you may surmise that my prospects are still a full year's lease away. Surprising is it not, for one who has witnessed marital incarcerations of Brothers Austin, Cargen, and Thornton? ..."

Course I. I certainly was surprised last June 7, Alumni Day, when I saw Stan Levitt striding across the Technology campus. Proceeding to department headquarters, where Professor and Mrs. Breed '97 welcome returning Alumni with refreshments on this day (I look for a large turnout next year after this statement), Stan and I had quite a chat. As a transitman with the United States General Land Office, he had just completed a 4,000-mile tour of Wisconsin, Arkansas, Mississippi, Washington, and New York. He said he was getting tired of rambling because he was anticipating marriage

within three months to Miss Hilda Janet Simmons of Greenville, Miss. He met the girl while he was working in Vicksburg. His plans were then indefinite. He might accept a reappointment with the Land Office, or go into a consultant's office. The latter alternative explains his presence at Technology; he came to borrow his thesis to show a prominent New York engineer. Here's hoping Stan's plans went through. His address is 845 West End Avenue, New York City.

The only other Course I member I've heard from for many months is Elliott Robinson. He spent the summer in the open air at the Burroughs Newsboy's Foundation Camp in West Poland, Maine, as a counselor and came home in the fall completely brown. No permanent job for him yet, but he manages to keep pretty busy as a substitute teacher and draftsman.

Now to give a brief account of myself. After receiving my master's degree last June, I went to work on June 28 for the Linde Air Products Company's Buffalo laboratory. After two weeks of orientation in Buffalo, the company sent me for practical training to the plant in Trafford, Pa., 17 miles outside of Pittsburgh. If you can picture a civil engineer who specialized in structures working around air compressors, heat interchangers, and distilling columns, you have a picture of me, but I'm learning a lot, so I like the work. Since I don't know where I will be sent, I hope the members of the Course will write me at my home address, 23 Sewall Street, Melrose, Mass.

Course II. While I was in Buffalo, I naturally saw a little bit of Jim Patterson, who is also working in the Linde Lab there. He seemed to be enjoying his work, and it seems he must still be working hard because he has not written as secretary for Course II. However, any members of that Course can correspond with him at 232 Highland Avenue, Buffalo, N.Y. Just to keep the record clear, I don't want to give the impression that Pat spends all his time working; every other week-end, and sometimes oftener, he makes a trip to Utica!

Course III. Since Stan Johnson is in Pittsburgh, right near my present location, we've visited several times. As one who knows, let me recommend him to any of the brethren who happen to find it their lot to be near the Smoky City; he knows the "right people." His address is 718 South Linden Avenue. Stan has written the following account: "Last July I was transferred to the metallurgical division of the Carnegie-Illinois plant in Homestead, where I have charge of the macroetching. In this lab we investigate claims from our various customers as well as carry on investigation on current problems. Needless to say, it is most interesting work. Lea Spring is still with the observation corps of the Carnegie-Illinois Steel Company. He is pretty well shaken up at the present time, as he has just invested in a 1930 Dodge coach. It is rumored that he had all the parts strewn out in his back yard for a general overhauling and on putting it all together found enough spare parts to make a

1936 Continued

bicycle. The first two weeks in September he went home to get a much needed rest. Howard Anderson is doing so well in the observation corps at the same plant that he has been made an observation foreman, which means that one makes twice the money and does half the work. He says the mental anguish more than accounts for the lack of physical labor. As for the social end of things, Andy is still toying with the affections of a certain very interesting young lady. Since he has a rival, you can bet that we will hear more from this angle. I see by the personal items in *Metals Progress* that Lew Gelbert is no longer working for Inland Steel but has taken a job as metallurgist with a company in the East. More definite dope on Lew later."

Course VI. Nick Lefthes, 11 Ward Street, Salem, Mass., writes as course secretary: "During the past summer I met Harry Pekin, who was home on his vacation. Harry, Phil Norton, Mike Paskowski, and I had a sort of class reunion. Harry is still with Tung-Sol Lamp in New Jersey and is satisfied with his position, and Mike is with the Lynn Gas and Electric. A few weeks ago, Phil Norton went to Bridgeport, Conn., and obtained a job in the General Electric plant as a final tester in the radio department. Phil says the job is easy and the pay is good; there are a few other Tech men working in that plant, but they are not of our Class. As for myself, I obtained a position with New England Power, and I am stationed in their gas plant in Salem. I am doing everything from painting to helping install gas compressors." We are glad to hear about these three fellows landing jobs.

Course VI-A. The news about this group is covered by Mart Gilman, 14 Clinton Street, Cambridge, Mass. It will be recalled that Mart is working for General Radio, located at 30 State Street in the University City. He says: "I have been working in the testing laboratory all summer and am just starting in the engineering department. I have been getting a lot of valuable experience which should help me later on. Ed Halfmann was sent to Elkton, Md. (the place where all the elopers from Pennsylvania go), as soon as he reported at the Philadelphia Electric. He spent most of the summer there running around among the rural sections trying to sell electricity and planning new lines. He also spent a short time at Oxford, Pa., on the same work. Probably by the time this gets into print he may be back in Philadelphia, but it's not a sure bet. I have not gotten much news from the rest of the crowd, but I did see Norm Willcox for a while. He was around school this summer after finishing a turn with General Electric in Pittsfield. When he left, he was headed for Schenectady, and as far as I know is there now. Charley Rife spent his vacation and also some other time around the Institute this summer doing his thesis and getting a bead on his seminar which he hopes to complete this winter at Schenectady. I bumped into Lawrence Peterson one week-end when he was down from

Schenectady. He is in the business training course with General Electric. They are trying to make a businessman out of him, I guess. Maybe he should have taken Course XV! I have heard nothing else from any of the boys except that I know Bill Saylor was at Pittsfield for a while getting some training before going into his work with G.E. at Philadelphia. . . . I just got back from a fine week-end up at Lake Winnepesaukee with a bunch of the engineers from General Radio. Incidentally, Keith Henney of *Electronics* was there for a day, too. And Buddy Worden, Bob's brother, was with the party. I had never met him before, but he seems as fine as Bob."

That ends the news from Mart, but various sources have combined to add to it. Another of the boys with G.E. is Lennart Wuosmaa, who is a student engineer in the Pittsfield plant. Last June, Frank Phillips said he was to be employed in the commercial department of the New Jersey Telephone Company at Newark; I imagine he is there now. From the *VI-A News* we learn that Walt MacAdam and Luigi Robinett are associated with the American Telephone and Telegraph Company. Walt is working on a line construction gang near Denmark, S.C., and Robinett is probably doing the same kind of work because the A.T. and T. makes a practice of sending new men into the field for a period of construction experience in the long-lines department before giving them introductory training courses in the organization of the company and the work of the various departments.

Course VI-C. The Secretary for this Course, Jack Cook, is another of the fellows who remains in Cambridge. After completing his course at Harvard, Jack returned last June to Tech as a research assistant, spending his working hours in Room 4-209. He starts his letter by telling about where he was for some of his non-working hours: "I drove down to Long Island for a week-end in August (you guessed it). Coming back over the Post Road, I drew up at a traffic light alongside of Henry Runkel driving a classy looking Chevrolet roadster. He has been transferred to Bridgeport, I believe. (His address is 55 Washington Place, Bridgeport.) My reason for coming up the Post Road was to visit Dan Farmer, who was taking a two weeks' vacation from his Sperry Gyroscope job and spending it at Branford with his family. He is getting along great at his work — three raises so far. Into the office the other day walked Harry Foster. In July of 1936 he married Lorraine Beaudry, bought a car, and went to work down in Newark. He likes it fine, and there are still two in the family. Leonard Blakely is also in Newark with the telephone company of that city. He is another of the boys that grabbed off a degree and a wife at about the same time. Occasionally I see T. N. Mitropoulos. He is working for Simplex Wire and Cable. Earle Kinsman is going to work for General Electric, but he liked the year at Ohio State so much he hopes to come back into teaching. John

Hibbert spent the summer running Chaffee's machine for taking vacuum tube characteristics, up the river at Harvard. He will be there next year working and studying." In conclusion, Jack gives the impression that he is now living in an apartment in Boston. One item he missed is that Billy Wu is apparently still at Technology, because his name was in the paper this summer as one of those collecting funds to aid China against Japan.

Course VII. Returning this fall to Harvard Medical School, Ed Pratt writes to say that he is sorry he has no news from his Course. He says: "I really would enjoy being the Course Secretary if only the fellows would write once in a while," and those of us who are trying to provide news about the Class would agree with him. Ed reports he has done nothing this summer; he was at home in Great Barrington except for four trips down to Maine. His new address at school, to which he returned on September 25, is 450 Vanderbilt Hall, Longwood Avenue, Boston, Mass.

Course VIII. Way back last June, I received a letter from Charlie Evans, but it was too late to make the last issue before summer. Perhaps some of the news is now a little old, but it isn't moldy yet, so I'm passing it on. He writes: "Milt Dobrin has been doing graduate work in physics at Columbia University, where for the past year he has held a residence scholarship. He has been helping in the neutron laboratory and also in the physics laboratory sections in the extension department. The most interesting point for Tech men to consider, however, is that Milt has been living on the 13th floor of the dormitories — and we used to kick at having to get to the fifth floor. Wonder how a milk bottle would look, after dropping from his window. At the time of his letter, he didn't know just what his plans for next year would be, so he may show up almost anywhere. Leonard Cohen is still working away at the box factory and is getting along well. At present he works on jobs which require a knowledge of conditions in both the factory and in the office. His boss has promised him more responsibility in the near future, and Lenny seems to be looking forward to it rather eagerly. He doesn't say what he has been doing with his spare time, if he has any. The credit for the largest letter this month goes to Carl White. He is doing a real job as an industrial physicist and is getting a big kick out of it. Apparently he is still following in the lines of interest he developed at school — with the emphasis on electronics. According to him, some of his apparatus is just as ornery as that we used to struggle with at school. Carl has an appropriation for new apparatus, which he claims will work even though it looks complicated enough on paper to put Rube Goldberg to shame. Out of hours, he is still working on a play, a novel, and radio; in fact, he hopes to have his ham license by fall. Nice going, Carl." And so Charlie abruptly ends his letter; in the light of today's mail I can well imagine why. On Saturday, the 18th of

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1936 Continued

September, Charles H. Evans was married to Miss Jean Carter in Rochester. This certainly is a surprise — congratulations to the young couple. The newlyweds are at home at 1126 Dewey Avenue, Rochester.

Course IX. I had thought that married life might cause Henry Cargen, Course Secretary, so to change his life that he might find time to send in some news, but I must have been mistaken. Henry is still working for the advertising agency of J. Stirling Getchell, and he keeps his wife at 10 Monroe Street, the same apartment building that Jack Austin inhabits. Another advertising man apparently plans to take the same step because I have a letter from Dick Odiorne saying that he hopes after next June he and his Louise will not be separated by a thousand miles of traveling which can be traversed only quarterly. — Semon Knüdsen, also of this Course, is working in a Detroit machine shop.

Course X. We have no word from El Koontz, who was last heard from in March, at which time he was in Philadelphia working as a sales engineer for Reliance Electric and Engineering Company. However, a bit of news from members of this Course has drifted in and we proceed to relate it. With the Standard Oil Development Company in Baton Rouge are Tom Terry and Walt Squires. The Du Pont ammonia division in Wilmington has claimed three of the boys in the persons of Ossie Osgood, Don Kenny, and Charlie Holman. All three are hard at work on secret research. Herb Borden is with the Tidewater Oil Company in Bayonne, N.J. Near-by in New York City, Ed Everett and Jim Vaughan are lending their talents to the M. W. Kellogg Company, a firm which erects everything from boilers to gasoline cracking plants. Dick Denton is also in the Big City, being employed by the General Printing Ink Corporation. Out in Pittsburgh, Louis Young is working for Carnegie-Illinois Steel Company. And finally, Truman A. Gadwa is with the Lummus Company of New York.

Course XIII. Our prize correspondent for this month is Art Wells because he sent a special delivery letter so as to be sure that it reached me in time for publication. Since correspondence has not thrived on

summer weather, he gives local New York news: "Early in September, Al Hardman left New York to return to Cambridge for his final term at Tech, having spent the summer gathering experience in freight handling on the Jersey City piers of the Moore and McCormack Company. We hope that Al will join us in New York again next spring. Jack Stapler returned early in July from a two months' observation trip to South America for the Munson Line, having spent two weeks in Rio de Janeiro and several days in Buenos Aires. Jack is now assisting the port engineer with the maintenance problems of the Munson fleet. Recently, one of Jack's many hobbies has been politics, and this summer he was appointed captain of his party district in New York City. — Russ Miller is still located with Atlantic Mutual Insurance Company in New York City. What with the present disturbances in the Far East and in the Mediterranean, Miller's banker's hours have been drastically altered. — Harrison Woodman is at present located in the freight department of the Colombian Steamship Company in New York City. It is in the wind that Woodie will be transferred to Barranquilla, Colombia, some time this winter, to be two years or so in the offices of the Colombian Line's freight service on the Magdalena River. — Al Gray is working at the Sun Shipbuilding yards in Chester, Pa., and reports his address to be 968 East 20th Street in that city. — Bob Johnson is located with Gibbs and Cox in New York City. I am told that Bob is married and is commuting from Long Island. We will have to see Bob . . . and check up on these rumors. . . . Pretty sketchy, but there are strings out which should bring a better collection . . ."

Many of the Class may be interested in the locations of the XIII-A boys who completed their work this past June, as given in the following list: C. J. Weschler, Portsmouth Navy Yard, Virginia; F. B. Schultz, Boston Navy Yard; R. S. Mandelkorn, Bremerton Navy Yard, Washington; R. L. Evans, Portsmouth Navy Yard, New Hampshire; J. E. Flynn, Brooklyn Navy Yard, New York; C. J. Palmer, Newport News Shipbuilding Company, Newport News, Va.; P. W.

Pfingstag, Mare Island Navy Yard, California; Ernest C. Holtzworth, Norfolk Navy Yard, Virginia.

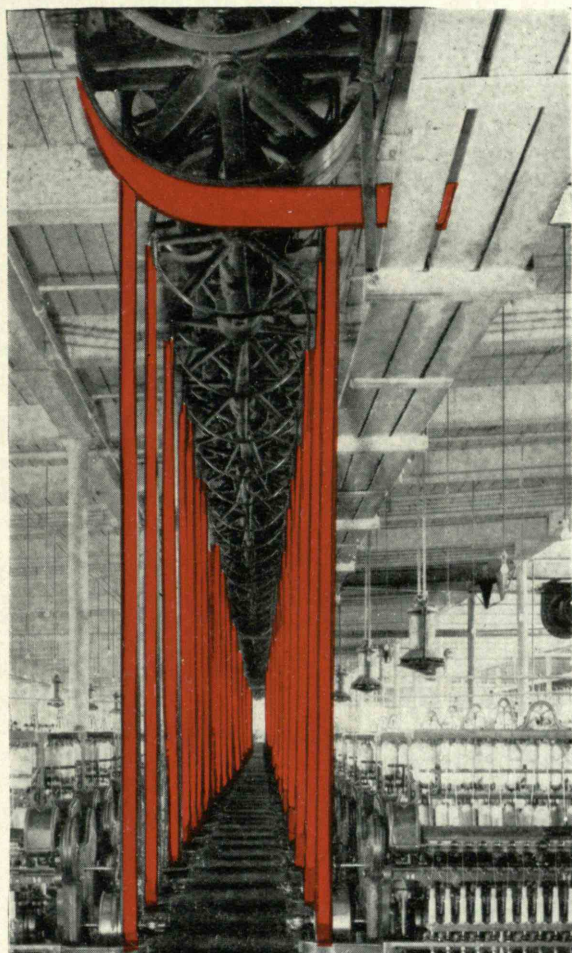
Course XVII. After a silence since last Christmas, Dick Hickman, 2513 Park View Avenue, Knoxville, Tenn., has come through with a bit of news: "On my vacation I spent a week-end with Betts in New York with plenty doing all the time. We visited a girl on Long Island who is engaged to one of the boys here at 2513, she having recently graduated from the University of Tennessee here in Knoxville. Al was certain, up until three months ago, that no girl would ever catch him — and now look at him. Hope it isn't contagious or it may break up our happy home. At school I learned that Lukofsky has gone to work for the Carnegie-Illinois people in Pennsylvania and has ceased his anticapitalistic speech-making. Bob Sawyer is looking for something to do — and still has his master's thesis to complete. Heard indirectly from Schoettler, who is building things in Kentucky with some contracting organization. (Your Secretary believes it is his Dad's firm.) Mullen was in Boston again at last reports and highly prefers it to the wide spaces of Texas. . . . Only yesterday (September 13) upon reporting from vacation, I was transferred from spillway to powerhouse design, and have been given the job of investigating the principal stresses in the main buttress walls of the powerhouse units." Apparently Dick refers to his work on the Chickamauga Dam, with which project he has been connected since joining the T.V.A. Incidentally, Dick includes a masterful defense of T.V.A. in his letter, showing that they have at least converted their employees. Adding to his news, I might report seeing John Viola and Angie Tremaglio at the housing conference at the Institute on Alumni Day. They were still going strong on post office construction, finishing up in Waterbury with Mansfield, Mass., next on the list. They had just taken a week's trip to Florida, which I understand was quite a party. — ANTON E. HITTL, *General Secretary*, 23 Sewall Street, Melrose, Mass.; ALLEN W. HORTON, *Assistant Secretary*, Room 3-208, M.I.T., Cambridge, Mass.

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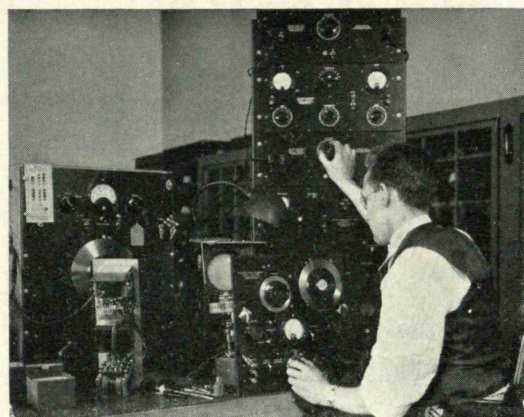
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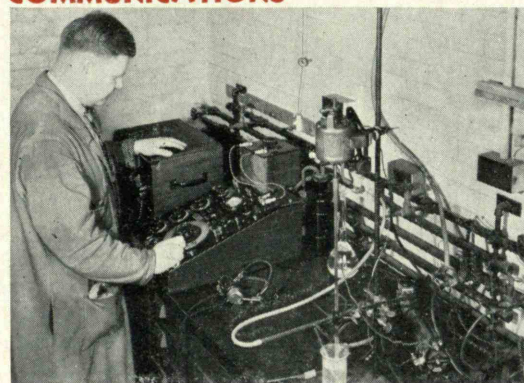
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